

# ALBERTA ENVIRONMENTAL APPEALS BOARD

## Report and Recommendations

Date of Report and Recommendations – December 22, 2023

**IN THE MATTER OF** sections 91, 92, 94, 95 and 99 of the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12, and section 115 of the *Water Act*, R.S.A. 2000, c. W-3;

**-and-**

**IN THE MATTER OF** an appeal filed by Anita Alexander, Antonietta Davis, and William Hill with respect to the decision of the Director, Regional Approvals, Regulatory Assurance Division-South, Alberta Environment and Parks to issue *Water Act* Approvals Nos. 00387959-00-00 and 00391359-00-00 to the Town of Blackfalds.

Cite as: *Alexander et al.v. Director Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks, re: Town of Blackfalds* (22 December 2023), Appeal Nos. 20-011-014 and 20-016-R (A.E.A.B.), 2023 ABEAB 19.

**BEFORE:**

Ms. Anjum Mullick, Board Member and Panel Chair; Ms. Barbara Johnston, Board Member and Board Chair,\* and Mr. Nick Tywoniuk, Board Member.

**SUBMISSIONS BY:**

**Appellants:** Ms. Anita Alexander, represented by Mr. Barry Robinson, EcoJustice; Ms. Antonietta Davis; and Mr. William Hill.

**Approval Holder:** Town of Blackfalds, represented by Ms. Suzanne Alexander-Smith, Chapman Riebeek LLP.

**Director:** Mr. Todd Aasen, Director, Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks, represented by Ms. Nicole Hartman and Mr. Paul Maas, Alberta Justice.

**Intervenors:** Aurora Heights Management Ltd. represented by Mr. Ron Henschel; and Mr. Everett and Ms. Bev Loney represented by Mr. Joe Tindall.

**WITNESSES:**

**Appellants:** Ms. Anita Alexander, Mr. Greg Wagner, Ms. Antonietta Davis; and Mr. William Hill.

**Approval Holder:** Mr. Preston Weran, Director of Infrastructure and Property Services, Town of Blackfalds; Ms. Martine Francis, Project Manager, Stantec Consulting Ltd.; Mr. Dave Morgan, Environmental Services-Water Quality, Stantec Consulting Ltd.; Mr. Brad Dardis, Senior Stormwater Engineer, Stantec Consulting Ltd.; Mr. Joe Riddell, Hydrogeologist, Stantec Consulting Ltd.; Ms. Meghan Chisholm, Environmental Planner, Stantec Consulting Ltd.; Ms. Sheila McKeague, Wildlife Biologist, Stantec Consulting Ltd.

**Director:** Mr. Todd Aasen, Director, Regional Approvals, Regulatory Assurance Division – South, Alberta

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\* Ms. Barbara Johnston was appointed Board Chair on November 22, 2023.

Environment and Parks; and Mr. Gordon Ludke, Senior Water Administration Engineer, Regional Approval, Regulatory Assurance Division – South; Alberta Environment and Parks.

**Intervenor:** Mr. Ron Henschel, Aurora Heights Management.

## EXECUTIVE SUMMARY

The Director, Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks\* (the Director) issued two approvals under the *Water Act* to the Town of Blackfalds (the Town) to construct, operate and carry out maintenance of a stormwater management system (Approval 1) and to modify two wetlands; construct, operate and carry out maintenance of a linear wetland system; and construct, operate and maintain a storm trunk (Approval 2).

Ms. Anita Alexander, Ms. Antonietta Davis, and Mr. William Hill (the Appellants) filed appeals with the Environmental Appeals Board (the Board) of the Director's decision to issue Approval 1 and Ms. Alexander and Ms. Davis filed appeals of the Director's decision to issue Approval 2. Ms. Alexander also applied for a stay of the approvals. After receiving submissions on whether the Appellants were directly affected by the approvals and whether a stay should be granted, the Board found the Appellants were directly affected by the issuance of the approvals but declined to issue a stay.

The Board granted intervenor status to Ms. Bev Loney and Mr. Everett Loney and to Aurora Heights Management Ltd. (Aurora) on a limited basis. Mr. and Ms. Loney and Aurora were each permitted to file a written submission and Aurora was permitted to speak to its submission at the hearing.

An oral hearing was held by video conference on June 14, 17, and 21, 2021. The Board received and reviewed written submissions, assessed oral evidence and arguments presented at the hearing, and reviewed Alberta Environment and Parks' record on the following issues set by the Board:

1. Was the Director's decision to issue the Approvals appropriate, having regard to the *Water Act* and the applicable Alberta Environment and Parks' policies and guidelines? This includes but is not limited to:
  - a. an adequate outlet for the stormwater management system;

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\* On October 21, 2022, Alberta Environment and Parks was renamed Alberta Environment and Protected Areas.

- b. the analysis and modelling of stormwater quality in accordance with the Stormwater Management Guidelines for the Province of Alberta;
  - c. the risk of potential hydrocarbon contamination to Lacombe Lake as a result of the activities authorized by the Approvals;
  - d. the stormwater flows used to calculate the water quality impacts of the activities authorized by the Approvals; and
  - e. cumulative environmental impacts of the activities authorized by the Approvals on Lacombe Lake, including:
    - i. impacts on water flow through the Lake;
    - ii. impacts on water quality in the Lake;
    - iii. impacts on water levels on the Lake;
    - iv. impacts of water flow and water levels on shoreline erosion; and
    - v. impacts of water flow and water levels on-shore nesting birds.
2. Do the terms and conditions of the Approvals appropriately address the potential environmental impacts of the activities that are authorized? This includes but is not limited to:
- a. monitoring that would determine the quality of stormwater discharging into Lacombe Lake.

The Board found the Director's decision to issue the approvals appropriate having regard to the *Water Act* and Alberta Environment and Parks' (AEP) policies and guidelines. In particular, the Board found that the Director properly considered the requirements of section 38(2) of the *Water Act*, which details the mandatory and discretionary matters that the Director should consider.\*\* The Board found the approvals met or exceeded AEP stormwater management policies and guidelines and the activities authorized by the approvals did not adversely affect the riparian or aquatic environment.

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\*\* Section 32(2) of the Act provides:

“In making a decision under this section, the Director

- (a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in issuing an approval, as specified in an applicable approved water management plan,
  - (b) may consider any existing, potential or cumulative
    - (i) effects on the aquatic environment,
    - (ii) hydraulic, hydrological, and hydrogeological effects, and
    - (iii) effect on household users, licensees, and traditional agricultural users,
- that result or may result from the activity, ...”

The Board determined the terms and conditions of the approvals appropriately addressed the potential environmental impacts of the activities authorized. However, the Board found that the Director erred by including a definition of adequate outlet in Approval 1 that was too restrictive, caused confusion and was not reflective of current AEP policies and guidelines.

The Board recommended Approval 1 be varied to include a more complete definition of adequate outlet as provided for in current AEP policies and guidelines. The Board also recommended Approval 1 be varied to add monitoring at the discharge point of the linear wetland to ensure the project operated as intended. The Board recommended all other terms and conditions of the Approvals be confirmed as issued.

The Board strongly supports the Lake Management Plan required by Approval 1, that is to be developed by the Town in co-operation with the County of Lacombe, the Lacombe Lake Watershed Stewardship Society, other local stakeholders, and AEP officials. In the Board's view, many of the concerns expressed by the Appellants in these appeals will be best addressed through this Lake Management Plan.

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	KEY TERMS .....	3
III.	BACKGROUND AND FACTS .....	6
IV.	PRELIMINARY MATTERS.....	12
A.	Standard of Review .....	13
1.	Submissions .....	13
2.	Analysis .....	14
B.	Onus of Proof.....	16
1.	Submissions .....	16
2.	Analysis .....	18
C.	Precautionary Principle .....	19
1.	Submissions .....	19
2.	Analysis .....	22
V.	EVIDENCE AND ARGUMENTS .....	25
A.	Intervenors .....	25
B.	Appellants .....	27
1.	Ms. Anita Alexander – Appellant .....	27
2.	Ms. Antonietta Davis – Appellant .....	36
3.	Mr. James Hill – Appellant.....	39
C.	Approval Holder .....	40
1.	Provision of an Adequate Outlet.....	41
2.	Impact on Water Quality.....	47
3.	Cumulative Environmental Impacts of the Project .....	50
4.	Project Monitoring .....	51
D.	Director .....	52
1.	Identification of an Adequate Outlet.....	53
2.	Water Quality, Water Quantity and Flow Rates and Impact on the Environment .....	54
3.	The Appellants did not Meet the Onus of Demonstrating the Director’s Decision to Issue the Approvals was Inappropriate .....	62
4.	Terms and Conditions of the Approvals are Appropriate .....	63
5.	The Appellants have not Demonstrated the Terms and Conditions of the Approvals are Inadequate.....	65
VI.	BOARD’S ANALYSIS .....	66
A.	Was the Director's Decision to Issue the Approvals Appropriate, Having Regard to the <i>Water Act</i> and the Applicable Alberta Environment and Parks' Policies and Guidelines? .....	67
1.	An Adequate Outlet for the Stormwater Management System.....	68

2.	Analysis and Modeling of Stormwater Quality in Accordance with the Stormwater Management Guidelines for the Province of Alberta .....	73
3.	Risk of Potential Hydrocarbon Contamination .....	76
4.	Stormwater Flows used to Calculate Water Quality Impacts of the Activities .....	77
5.	Cumulative Environmental Impacts of the Activities Authorized by the Approvals on Lacombe Lake .....	78
B.	Do the Terms and Conditions of the Approvals Appropriately Address the Potential Environmental Impacts of the Activities that are Authorized? This Includes but is not Limited to Monitoring that Would Determine the Quality of Stormwater Discharging into Lacombe Lake?	81
VII.	CONCLUSIONS AND RECOMMENDATIONS .....	83
A.	Conclusions .....	83
B.	Recommendations .....	84
VIII.	CLOSING .....	85



## I. INTRODUCTION

[1] This is the Environmental Appeals Board’s (the “Board”) report and recommendations to the Minister of Environment and Protected Areas<sup>1</sup> (the “Minister”) concerning appeals filed in relation to the decisions of the Director, Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Protected Areas (the “Director”) to issue Approval No. 00387959-00-00 (“Approval 1”) and Approval No. 00391359-00-00 (“Approval 2”) (collectively the “Approvals”) under the *Water Act*, R.S.A. 2000, c. W-3 (the “Act”) to the Town of Blackfalds (the “Town”). The Board has jurisdiction to hear these appeals pursuant to section 115(1)(a)(i) of the Act.<sup>2</sup> The appeals were filed by Ms. Anita Alexander, Ms. Antonietta Davis, and Mr. William Hill. The Board allowed Aurora Heights Management Ltd. (“Aurora”), Ms. Bev Loney and Mr. Everett Loney to intervene in the appeals on a limited basis (the “Intervenors”).

[2] The Approvals are part of an overall project for stormwater management works within NE 34-39-27 W4M and SE 03-40-27 W4M in Lacombe County. Approval 1 allows for the construction, operation, and maintenance of stormwater management works. Approval 2 provides for the modification of two wetlands and the infill of a 0.16-hectare wetland, the construction, operation and maintenance of a linear wetland system, and the construction and operation and maintenance of a storm trunk (collectively the activities allowed by the Approvals are referred to as the “Project”).

[3] The Board held an oral hearing by video conference on June 14, 17 and 21, 2021, and received submissions and heard oral evidence on the following issues:

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<sup>1</sup> On October 21, 2022, Alberta Environment and Parks was renamed Alberta Environment and Protected Areas. The Board will refer to Alberta Environment and Parks for the purposes of this Report.

<sup>2</sup> Section 115(1) of the *Water Act* provides:

“A notice of appeal under this Act may be submitted to the Environmental Appeals Board by the following person in the following circumstances:

(a) If the Director issues or amends an approval, a notice of appeal may be submitted:

(i) by the approval holder or by any person who previously submitted a statement of concern in accordance with section 109 who is directly affected by the Director’s decision if notice of the application or proposed changes was previously provide under section ....”

1. Was the Director's decision to issue the Approvals appropriate, having regard to the *Water Act* and the applicable Alberta Environment and Parks' policies and guidelines? This includes but is not limited to:
  - (a) an adequate outlet for the stormwater management system;
  - (b) the analysis and modelling of stormwater quality in accordance with the Stormwater Management Guidelines for the Province of Alberta;
  - (c) the risk of potential hydrocarbon contamination to Lacombe Lake as a result of the activities authorized by the Approvals;
  - (d) the stormwater flows used to calculate the water quality impacts of the activities authorized by the Approvals; and
  - (e) cumulative environmental impacts of the activities authorized by the Approvals on Lacombe Lake, including:
    - (i) impacts on water flow through the Lake;
    - (ii) impacts on water quality in the Lake;
    - (iii) impacts on water levels on the Lake;
    - (iv) impacts of water flow and water levels on shoreline erosion; and
    - (v) impacts of water flow and water levels on shore nesting birds.
2. Do the terms and conditions of the Approvals appropriately address the potential environmental impacts of the activities that are authorized? This includes but is not limited to:
  - (a) monitoring that would determine the quality of stormwater discharging into Lacombe Lake.

[4] Based on the evidence and arguments presented at the hearing the Board concluded the Director's decision to issue the Approvals was appropriate having regard for the Act and the applicable Alberta Environment and Parks' ("AEP") policies and guidelines.

[5] The Board concluded the terms and conditions of the Approvals are appropriate in principle. However, in the Board's view, the Director erred in including a definition of 'adequate outlet' in Approval 1 which was too restrictive, caused confusion and was not reflective of AEP policies and guidelines.

[6] The Board recommended Approval 1 be varied to include the more complete definition of 'adequate outlet' as provided for in current AEP policies and guidelines.

[7] The Board also recommended Approval 1 be varied to add monitoring at the discharge point of the linear wetland to ensure the system operated as intended. The Board recommended all other terms and conditions of the Approvals be confirmed as issued.

## II. KEY TERMS

[8] The Board notes there are several terms used by the Appellants, Intervenors, Director, and the Town (the “Parties”) throughout the hearing. For the purposes of this report, the Board has clarified these terms as set out below.

[9] The “MDP” is a final master drainage plan completed in 2014 for the Wolf Creek and Whelp Brook watersheds. AEP issued *Water Act* Approval No. 00358426-00-00 to Lacombe County, the City of Lacombe and the Town of Blackfalds requiring the approval holders ensure all new stormwater management works within watersheds located in their municipal boundaries be undertaken in accordance with the MDP.<sup>3</sup>

[10] The “1999 SMGs” are the Stormwater Management Guidelines for the Province of Alberta and are part of the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems (2013) (“2013 SGDs”). The 1999 SMGs detail the system components that provide guidance to best practices in managing and designing storm drainage systems.

[11] The 2013 SGDs set out the minimum applicable design standards for storm drainage and include the more detailed standards and guidelines as described in the 1999 SMGs.<sup>4</sup>

[12] The “2006 SGD” is the *Stormwater Guidance Document, the Water Act and EPEA* (March 2006) which is the primary reference used to determine whether an approval, registration, or notification under the Act approval is required.<sup>5</sup>

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<sup>3</sup> Director’s Record at Tabs 330 and 340.

<sup>4</sup> Section 5(1) of the *Wastewater and Storm Drainage Regulation*, AR 119/93 EPEA, RSA2000, c-12 states:  
“5(1) A wastewater system and a storm drainage system must each be designed so that they meet a minimum  
(a) the standards and design requirements set out in the latest edition of the *Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems* published by the Department, as amended, and replaced from time to time, or  
(b) any other standards and design requirements specified by the Director.”

Part 5 of the *Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems* contains the *Stormwater Management Guidelines*,

<sup>5</sup> Director’s Record, at Tab 326.

[13] The “2018 Fact Sheet” is the *2018 AEP Fact Sheet, ‘Water Act: Storm Water Management’* (June 2018) which sets out the requirements under the Act for stormwater runoff and outfall works.

[14] The “MSMP” is Northwest Area Master Stormwater Management design plan submitted by the Town in support of its applications for the Approvals.<sup>6</sup>

[15] The “Water Quality Assessment” is the Water Quality Downstream of the Purposed Development (Report) (May 8, 2020) submitted by the Town in support of its applications for the Approvals.<sup>7</sup>

[16] The “Hydrogeological Assessment” is the desktop hydrogeological assessment of the proposed development area submitted by the Town in support of its applications for the Approvals.<sup>8</sup>

[17] The “Wetland Assessment” is the Wetland Assessment of the Northwest Area Storm Project, Blackfalds Alberta (March 2017) submitted by the Town in support of its applications for the Approvals.<sup>9</sup>

[18] The “Water Quality Monitoring Program” is the Water Quality Monitoring Program (June 21, 2019) submitted by the Town in support of its applications for the Approvals.<sup>10</sup>

[19] “SIR #1” is the request issued by the Director on May 31, 2018, to the Town to provide additional information and analysis in support of the Town’s applications for the Approvals.<sup>11</sup>

[20] “SIR #2” is the request issued by the Director on April 15, 2020, to the Town to provide additional information and analysis in support of the Town’s applications for the Approvals.<sup>12</sup>

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<sup>6</sup> Director’s Record, at Tab 247.

<sup>7</sup> Director’s Record, at Tab 348.

<sup>8</sup> Director’s Record, at Tab 345, page 246.

<sup>9</sup> Director’s Record, at Tab 51.

<sup>10</sup> Director’s Record, at Tab 346.

<sup>11</sup> Director’s Record, at Tab 344.

<sup>12</sup> Director’s Record, at Tab 248.

[21] The “Key Assessments” are the studies and information used by the Town to support the design of the MSMP as follows:

1. the Wetland Assessment;
2. the MDP;
3. Response to SIR #1 – May 31, 2018;
4. Water Quality Monitoring Program;
5. Water Quality Assessment; and
6. Response to SIR #2 – May 11, 2020.<sup>13</sup>

[22] The “NW Stormwater Management System” is the post-development stormwater management system designed to capture stormwater from northwest Blackfalds in a constructed hybrid stormwater pond (Pond A) and direct stormwater through constructed and existing wetland connections to Pond C where the stormwater is controlled-released into a constructed linear wetland that has an outlet to Pond D which further outlets to Lacombe Lake and beyond.

[23] The NW Stormwater Management System was developed based on the Town’s hydraulic modeling documented in the MSMP. The primary objective of the modeling was to provide a storm system design and framework that would ultimately provide an adequate outlet for the Project. The modeling was based on two types of simulations:

1. The “single event analysis” simulation refers to the modeling undertaken by the Town to quantify the potential effects of the proposed development on Lacombe Lake and Whelp Brook during single, infrequent storm events for up to a 1:100-year design storm event. The single event analysis was completed for pre- and post-development conditions.
2. The “continuous simulation analysis” refers to the modeling undertaken by the Town to assess the potential changes to pre- versus post-development runoff volumes, and to also assess the potential effects of back-to-back storms on Lacombe Lake.

[24] Scenarios 1 to 7 were modeling scenarios developed by the Town in its continuous simulation modeling. Scenario 1 represented pre-development conditions. Scenarios 2 to 7 represented the post-development stormwater management system and included modifying

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<sup>13</sup> Director’s Record at Tab 347.

modeling input variables such as infiltration rate, and the discharge rate control for one or more designed storm events.

[25] Scenario 4 was considered to be the most conservative of the scenarios and the input variables were described as: the storm ponds having no infiltration capacity, and assuming the general Project area has moderate to high infiltration rates, which are indicative of the local sandy/gravelly sub-soils. It was also assumed that the Lacombe Lake outlet and Whelp Brook culverts remain in their current configuration.

[26] Scenario 6 was considered to be the most likely of the scenarios and the input variables were described as: the storm ponds having an infiltration rate of 10 mm/hr over 80% of their surface area, and assuming the northwest Project area has moderate to high infiltration rates, which are indicative of the local sandy/gravelly sub-soils. It was also assumed that the Lacombe Lake outlet and Whelp Brook culverts remain in their current configuration.

[27] A “1:100 storm event” is a storm event that has a one percent chance of occurring every year or put another way, once every hundred years.

[28] The “Stormwater Monitoring Program” is the stormwater monitoring program required to be undertaken by the Town, pursuant to conditions 5.0, 5.1 and 5.2 of Approval 1, for a minimum of five concurrent years. It includes the collection by the Town of one year of initial background data and four concurrent years of data starting upon the completion of the construction of the NW Stormwater Management System.

[29] The “Lake Management Plan” is the plan required under condition 5.4 of Approval 1 to be developed by the Town in co-operation with the County of Lacombe, the Lacombe Lake Watershed Stewardship Society, other local stakeholders, and AEP officials. The Lake Management Plan must be developed and implemented at least one year prior to the completion of the Stormwater Monitoring Program.

### III. **BACKGROUND AND FACTS**

[30] On January 18, 2017, the Town submitted *Water Act* Application No. 00387959 to AEP for authorization to carry out activities under the Act, namely the construction, operation and maintenance of stormwater management works within NW 26, NW 27, NE 28, SE 33, Section 34,

SE35, SW35 and NW 35–39-27 W4M. On March 21, 2017, the Town submitted *Water Act* Application No. 00391359 to AEP for authorization to carry out activities under the Act, namely the modification of two wetlands within SE 34 and NE 34-39-27-W4M; the infill of a 0.16-hectare wetland within NE 34-39-27-W4M; the construction, operation, and maintenance of a linear wetland system within SE 3-40-27-W4M; and a proposed NW storm trunk within NE 34-39-27-W4M.

[31] The Approvals related to the construction of an overland conveyance system to manage stormwater, including a 1:100-year single storm event within the Lacombe County. The Town’s Master Stormwater Management Plan (“MSMP”) was prepared in support of the design of the Project by Stantec Consulting Ltd. (“Stantec”). Under the Project, stormwater would be discharged through four wet ponds to a linear wetland system and ultimately to Lacombe Lake which discharges into Whelp Brook, to Wolf Creek, and then to the Battle River. Appendix A provides diagrams of the proposed stormwater management system.

[32] The applications for the Approvals were referred to AEP internal experts for review including the Team Lead, Wetlands; a Limnologist/Water Quality Specialist; a Hydrologist; a Senior Wildlife Biologist; a Senior Fisheries Biologist; and a Land Management Specialist.

[33] Public Notice of the Applications was posted, and between May 10 and June 19, 2017, AEP received 19 Statements of Concern (“SOCs”) including SOC’s from each of the Appellants. The Director accepted 12 SOC filers, including the Appellants, as he determined them directly affected. On June 15 and June 17, 2017, the Town and Lacombe County held public open house meetings to discuss concerns relating to the Project.

[34] On November 17, 2017, AEP made a Supplemental Information Request (SIR #1) to the Town and Stantec that included among other things requests for clarification on hydrology issues, the location of an adequate outlet for drainage from the project area, the use of wet ponds, water flows expected before and after the proposed development, water quality monitoring, the planned linear wetland, and more specific best management practice for stormwater management.

[35] On May 31, 2018, Stantec responded to SIR #1 and provided, among other things, revised hydrology data, details on best management practices, a water quality assessment

downstream of the project and a proposed water quality monitoring program, as well as an updated MSMP.

[36] On June 15, 2018, the Town responded to all 19 filers of SOCs, including the Appellants, and provided updated information. The Town also met with the filers of the SOCs between June 19 and 26, 2018, to discuss its response and answer any further questions.

[37] On April 15, 2020, AEP sent a second Supplemental Information Request (SIR #2) to the Town and Stantec requesting information regarding data inconsistencies contained in the MSMP, details on when mitigation measures related to water quality would be implemented, and survey data or plans for Lacombe Lake outfall and downstream works. Stantec responded May 11, 2020, and corrected the data inconsistencies, and provided requested details on water quality mitigation, and survey data.

[38] Between May 8, 2017 and February 25, 2019, responses and requests for additional information were received from the AEP experts who had been asked to review the applications for the Approvals and the additional information provided by the Town including responses to SIR #1 and SIR #2 and the updated MSMP. On June 23, 2020, the Mr. Gordon Ludtke, AEP Senior Water Administration Engineer, wrote a memorandum to file stating he was satisfied the Town met the storm water management guidelines for treating stormwater and had exceeded the typical requirements for stormwater discharge.

[39] On June 24, 2020, the Mr. Ludtke approved the *Water Act* Approval Resume for Approvals 1 and 2. The Director issued the Approvals on July 15, 2020.

[40] On July 26 and 27, 2020, the Board received Notices of Appeal of Approval 1 from Ms. Anita Davis, and Mr. William Hill. On July 28, 2020, the Board acknowledged receipt of Ms. Davis' and Mr. Hill's appeals and notified the Town and Director of the appeals. The Board requested the Director provide a copy of all documents and all electronic media he reviewed and were available to him when making his decisions including policy documents (the "Director's Record").

[41] On July 29, 2020, the Board received a Notice of Appeal of Approval 1 and Approval 2 from Ms. Anita Alexander as well as a request for a stay of the Approvals.



[42] On July 29, 2020, the Board acknowledged receipt of Ms. Alexander's appeals, notified the Town and Director of the stay application, and requested the Director provide a copy of the Director's Record. On August 4, 2020, the Board requested the Town provide information about the status of the work being carried out under the Approvals and Ms. Alexander provide submissions with respect to her request for a stay and if she was directly affected by the decision of the Director to issue the Approvals.

[43] On August 16, 2020, the Board received a Notice of Appeal of Approval 2 from Ms. Davis.

[44] The appeals primarily related to the impacts the Project would have on Lacombe Lake. Lacombe Lake is downstream from the Project and discharges into Whelp Brook, which discharges into Wolf Creek, and ultimately into the Battle River.

[45] Between August 10 and September 20, 2020, the Board received submissions from the Town and Ms. Alexander regarding the stay application. On August 26, 2020, the Director notified the Board he did not take a position on Ms. Alexander's application for a stay.

[46] On September 22, 2020, the Board informed the Appellants, the Town and the Director that the Board had reviewed the submissions in relation to the stay request and had determined Ms. Alexander was directly affected by the Project, but the Board declined to grant the stay.<sup>14</sup>

[47] The Director provided the Director's Record to the Board on October 7, 2020. The Board subsequently provided the Director's Record to the Parties. A mediation meeting was scheduled for January 11, 2021.

[48] On December 16, 2020, Aurora Heights Management Ltd. ("Aurora") requested to intervene in the appeals and participate in the mediation meeting. Aurora operates a residential development that relies on the Project to continue development. Between December 18 and 20, 2020, the Board received submissions from the Parties regarding Aurora's participation in the

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<sup>14</sup> *Stay Decision: Alexander v. Director, Red Deer-North Saskatchewan Region, Operations Division, Alberta Environment and Parks, re: Town of Blackfalds* (18 July 2022) Appeal Nos. 20-13 and 20-014-ID4 (A.E.A.B.), 2022 ABEAB 41.

mediation meeting and was notified by the Director that he did not take a position on Aurora's participation. On December 22, 2020, the Board determined Aurora could not participate in the mediation meeting as the Parties did not all agree to Aurora's participation. On January 4, 2021, the Board indicated to the Parties that Aurora could apply for intervenor status if the appeals proceeded to a hearing.

[49] On March 19, 2021, the Board closed the mediation process as Ms. Alexander, Ms. Davis and Mr. Hill did not wish to continue. On April 16, 2021, the Board notified the Parties a hearing by video conference was scheduled for June 14 and 17, 2021.

[50] On April 23, 2021, the Board notified the Parties of the procedures for the hearing and proposed the following issue to be heard at the hearing of the appeals:

“Are the terms and conditions in the Approvals adequate having regard to the potential environmental impacts of the activities regulated by the Approvals?”

[51] On April 23, 2021, the Board provided a copy of the Notice of Hearing to the Town and Lacombe County requesting the Town and Lacombe County place the Notice of Hearing on their public bulletin boards or websites. The Notice of Hearing notified the public of the hearing and requested any person wanting to make representations contact the Board by May 6, 2021.

[52] On April 23, 2021, Lacombe County requested to observe the appeals and on April 28, 2021, the Board notified Lacombe County it would be permitted to do so as the Approvals relate to an activity occurring in Lacombe County.

[53] On April 30, 2021, Ms. Alexander filed three preliminary motions with the Board:

1. requesting the Board consider additional issues;
2. requesting additional time for the Appellant's counsel to cross-examine the Town's witness and the Director's witnesses; and
3. requesting final legal arguments be in writing following the closing of the oral hearing.

The Board notified the Parties of the preliminary motions and set a procedure to receive response submissions. The Board received response submissions from the Town and the Director. The Board issued its decision and reasons on May 12, 2021 (the “Preliminary Motion Decision”)<sup>15</sup>.

[54] In its Preliminary Motion Decision, the Board:

1. set the issues for the hearing;
2. revised the hearing schedule and granted the Parties additional time for direct evidence and cross examination for the sake of fairness; and
3. decided to allow written closing arguments followed by an oral closing process that, among other things, provided the Board with the opportunity to ask questions.

[55] The Board received applications to intervene from Aurora, Mr. Everett Loney and Ms. Bev Loney, and Mr. Lorne Zaparniuk. The Board notified the Parties of the applications to intervene in the hearing and set up a process to receive comments. The Board received comments from the Town, the Director, Ms. Alexander, and Ms. Davis on the potential participation of the applicants. The Board determined Aurora, Mr. Loney and Ms. Loney would be granted intervenor status on a limited basis. Mr. and Ms. Loney did not make submissions to the Board with respect to the appeals and did not attend the hearing of these appeals. Mr. Zaparniuk’s application for intervenor status was denied. The Board issued its decision and reasons on May 17, 2021.<sup>16</sup>

[56] On May 1, 2021, the Director requested the Board reconsider its decision on two preliminary motions respecting the revised hearing schedule and oral closing arguments and briefs. The Board notified the Parties of the reconsideration application and set up a procedure to receive comments. The Board received comments from the Town, Ms. Alexander, and Ms. Davis. The Board decided the hearing schedule should be revised to balance time for the Appellants, the Town, and the Director for each segment of the hearing and the oral hearing would conclude with oral closing arguments. The Board issued its decision and reasons on May 31, 2021.<sup>17</sup>

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<sup>15</sup> *Davis et al. v Director, Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks, re: Town of Blackfalds*, 2021 ABEAB 11.

<sup>16</sup> *Davis et al. v Director, Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks, re: Town of Blackfalds*, 2021 ABEAB 12.

<sup>17</sup> *Davis et al. v Director, Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks, re: Town of Blackfalds*, 2021 ABEAB 14.

[57] The Board received written submissions for the hearing including expert reports, from the Parties between May 17 and June 11, 2021. The hearing was held by video conference on June 14, 17 and 21, 2021. The issues heard by the Board were:

1. Was the Director's decision to issue the Approvals appropriate, having regard to the Water Act and the applicable Alberta Environment and Parks' policies and guidelines? This includes but is not limited to:
  - a. an adequate outlet for the stormwater management system;
  - b. the analysis and modelling of stormwater quality in accordance with the Stormwater Management Guidelines for the Province of Alberta;
  - c. the risk of potential hydrocarbon contamination to Lacombe Lake as a result of the activities authorized by the Approvals;
  - d. the stormwater flows used to calculate the water quality impacts of the activities authorized by the Approvals; and
  - e. cumulative environmental impacts of the activities authorized by the Approvals on Lacombe Lake, including:
    - i. impacts on water flow through the Lake;
    - ii. impacts on water quality in the Lake;
    - iii. impacts on water levels on the Lake;
    - iv. impacts of water flow and water levels on shoreline erosion; and
    - v. impacts of water flow and water levels on shore nesting birds.
2. Do the terms and conditions of the Approvals appropriately address the potential environmental impacts of the activities that are authorized? This includes but is not limited to:
  - a. monitoring that would determine the quality of stormwater discharging into Lacombe Lake.

[58] The Board closed the hearing on June 21, 2021.

#### IV. **Preliminary Matters**

[59] At the hearing, the Board identified three preliminary matters:

1. What is the appropriate standard of review the Board should apply in the circumstances of these appeals?
2. What is the appropriate onus of proof the Board should apply in the circumstances of these appeals?
3. Does the precautionary principle apply to the issuance of the Approvals and the circumstances of the appeals before the Board?

[60] The Board determined the appropriate standard of review applicable to the circumstances of these appeals is correctness. The Board further determined the onus of proof is

on the Appellants to provide sufficient evidence to demonstrate to the Board the decision of the Director should be reversed or varied.

[61] The Board determined the precautionary principle does not apply to the issuance of the Approvals in the circumstances of these appeals. However, the work undertaken by the Director, and in particular the conditions that he has placed on the Approval, meets the intent of the precautionary principle to ensure that development takes place in an environmental responsible manner.

A. **Standard of Review**

1. Submissions

*Appellants*

[62] Aurora, Mr. Hill, and Ms. Davis did not make any submissions regarding the standard of review.

[63] Ms. Alexander submitted the standard of review was correctness based on the Board's decision in *Brookman and Tulick v Director, South Saskatchewan Region, Alberta Environment and Parks, re KGL Contractors, A Partnership* ("Brookman").<sup>18</sup> Ms. Alexander agreed with the Director's submission that the standard of review to be applied by the Board should be determined by the factors set out in *Newton v Criminal Trial Lawyers' Association*, ("Newton")<sup>19</sup> but argued if applied to the current situation the appropriate standard of review was correctness.<sup>20</sup> Ms. Alexander submitted the issues and processes in the current matters are almost identical to the issues and process in *Brookman* and there is no reason for the Board to deviate from its conclusion in *Brookman* where the Board determined the standard of review was correctness.<sup>21</sup>

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<sup>18</sup> *Brookman and Tulick v Director, South Saskatchewan Region, Alberta Environment and Parks, re KGL Contractors, A Partnership*, 2017 AEAB 14 ("Bookman").

<sup>19</sup> *Newton v Criminal Trial Lawyers' Association*, ("Newton") 2010 ABCA 39.

<sup>20</sup> See Rebuttal Written submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraph 5 and the analysis by Ms. Alexander of the factors set out in *Newton* at paragraphs 6 and 7.

<sup>21</sup> Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraph 8 to 12.

*The Town*

[64] The Town submitted the standard of review to be applied in the appeals was correctness. However, the Town also noted comments in obiter made by the Board in *McCain Foods v Director, Prairie Region, Alberta Environment*<sup>22</sup> that the Board was not precluded from applying some level of deference to the Director in making its decision.

*The Director*

[65] The Director submitted the standard of review for these appeals was reasonableness. The Director respectfully disagreed with the Board's determination in *Brookman* that the appropriate standard of review was correctness. The Director argued the standard of review should be done on a case-by-case basis having regard for the factors set out in *Newton*<sup>23</sup> as reiterated in *Lum v Alberta Dental Association and College (Review Panel)*.<sup>24</sup>

[66] The Director submitted reasonableness was the most appropriate standard of review in the context of these appeals as it acknowledged the discretionary nature of the Director's decision to issue the Approvals, the expertise of the Director and AEP subject matter experts involved in the application process, and the position of the Director as the decision-maker of first instance with several years' experience in the subject matter.

2. Analysis

[67] The Board has been asked to determine the appropriate standard of review applicable to the circumstances of these appeals. The Board in *Brookman* conducted an extensive review of the standard of review as it applies to the Board's review of the Director's decision. In *Brookman*, the Board found the standard of review is to be determined on a case-by-case basis and will either be reasonableness or correctness.<sup>25</sup> As in *Brookman*, this case deals with approvals under the Act and the Board believes the same principles, and therefore the same standard of review, correctness, applies in this case.

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<sup>22</sup> *McCain Foods v Director, Prairie Region, Alberta Environment*, Appeal No. 99-138 at paragraph 14. See also Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraphs 13 and 14.

<sup>23</sup> *Newton v Criminal Trial Lawyers' Association*, 2010 ABCA 39.

<sup>24</sup> *Lum v Alberta Dental Association and College (Review Panel)*, 2015 ABQB 12.

<sup>25</sup> *Brookman* at paragraph 166.

[68] In each case, the Board will consider the factors set out by the Alberta Court of Appeal in *Newton* (the “Newton Test”) in determining the standard of review. The Director argued the application of the Newton Test to these appeals should lead the Board to conclude that the appropriate standard of review is reasonableness due to the discretionary nature of the Director’s decisions to issue the Approvals, the expertise of the Director and AEP subject matter experts, and the advantageous position of the Director as an experienced decision maker in the first instance. The Board respectfully disagrees.

[69] The standard of review was considered by the Board in *Cherokee Canada Inc. et al. v. Director, Regional Compliance Red Deer-North Saskatchewan Region Operations Division, Alberta Environment and Parks*<sup>26</sup> (“*Cherokee*”). In *Cherokee*, the Board in determining the standard of review to be used by an appellate statutory decision-maker, cited *Newton* and concluded the respective roles of the appellate statutory decision maker, being the Board, and the decision maker being reviewed by the Board, being the Director, are first and foremost a question of statutory interpretation and will always be the ultimate determiner of what standard of review an appellate tribunal should apply. The Board in *Cherokee* noted that the Saskatchewan Court of Appeal in *City Centre Equities Inc. v. Regina (City)*<sup>27</sup> supported this position, affirmed *Newton*, and summarized the question to be asked in determining the appropriate standard as: “What role did the Legislature intend the appellate tribunal to play?”<sup>28</sup>

[70] The Board in *Cherokee* also noted the Alberta Court of Appeal in *Pelech v. Alberta (Law Enforcement Review Board)*<sup>29</sup> found not all the factors in *Newton* apply in every analysis of the standard of review and the ultimate determiner of the standard of review will always be the respective roles of the decision makers as determined through statutory interpretation. In *Cherokee*, as in *Brookman*, in determining the appropriate standard of review the Board considered the structure of EPEA, the nature of a *de novo* hearing, the expertise of the Board and its role in providing the Minister the Board’s Report and Recommendations and the broad scope of the

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<sup>26</sup> *Cherokee Canada Inc. et al. v. Director, Regional Compliance Red Deer-North Saskatchewan Region Operations Division, Alberta Environment and Parks*, 2019 ABEAB 1 (“*Cherokee*”).

<sup>27</sup> *City Centre Equities Inc. v. Regina (City)*, 2018 SKCA 43.

<sup>28</sup> *Cherokee* at paragraph 19.

<sup>29</sup> *Pelech v. Alberta (Law Enforcement Review Board)*, 2010 ABCA 400 at paragraph 22.

authority of the Minister as the final decision maker without any statutory obligation to give deference to her officials. The Board in *Cherokee*, as in *Brookman* concluded the proper standard of review to apply to the Director's decision was correctness. The Board believes the same principles apply to the standard of review applicable to the current appeals before the Board and the appropriate standard of review is correctness.

[71] The role of the Board is to provide the Minister with the best possible advice to support the exercise of the Minister's broad jurisdiction under EPEA. The Board notes that although EPEA does not require, as a matter of law, the Minister give deference to her officials, the Minister may always in her discretion choose to do so, but it is not a presumption upon which the Board should temper the recommendations it provides. The Board finds that the appropriate standard of review for these appeals is correctness, without deference to the Director. The Board does however appreciate the expertise and experience the Director and AEP subject matter experts provide the Board to better enable the Board to fulfill its role.

## B. Onus of Proof

### 1. Submissions

#### *Appellants and Intervenors*

[72] Aurora, Mr. Hill, and Ms. Davis did not provide submissions regarding the onus of proof. Ms. Alexander submitted the onus is on the Appellants to provide sufficient evidence and arguments to support their position and to demonstrate to the Board the Director's decision should be reversed or varied, as stated in the Board's decision in *Fenske and Janus v Director, Central Regional Services, Alberta Environment re: Beaver Regional Waste Management Services Commission* ("*Fenske*").<sup>30</sup> Ms. Alexander argued however, contrary to submissions of the Town and Director, there is no onus on the Appellants to provide evidence establishing adverse environmental effects and to do so would be a re-interpretation of the issues before the Board.<sup>31</sup>

[73] Ms. Alexander submitted that to satisfy the onus of proof it is sufficient for the Appellants to establish a legitimate concern about the completeness and accuracy of the

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<sup>30</sup> *Fenske and Janus v Director, Central Regional Services, Alberta Environment re: Beaver Regional Waste Management Services Commission*, 2006 ABEAB 12.

<sup>31</sup> See Rebuttal Written submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraphs 9 and 10.



information available to the Director when he made his decision, the errors in the Director's analysis of that information, and the potential environmental impacts that may arise from those errors and omissions. [Emphasis added by Ms. Alexander.] Ms. Alexander argued that to require proof those errors and omissions would result in significant adverse environmental impacts, would require modeling and expertise beyond the capabilities of Ms. Alexander and render the Board process inaccessible to most individual appellants.<sup>32</sup>

*The Director*

[74] The Director also relied on the Board's decision in *Fenske* where the Board determined the onus is on an appellant to provide sufficient evidence to demonstrate to the Board that a director's decision should be reversed or varied. The Director submitted the onus is on the Appellants to show one or more of the Approval activities would have a significant adverse impact on the environment and the terms of the Approvals are inadequate to address any potential adverse impacts on the environment.<sup>33</sup>

*The Town*

[75] At the hearing, the Town argued the onus was on the Appellants to provide sufficient evidence and argument to establish the Director was incorrect in granting the Approvals under the legislative framework.

[76] The Town argued the Board's decision in *Fenske* was instructive to show the onus is on the Appellants to do more than raise speculation and ask the Board to draw unsubstantiated inferences. The burden is on the Appellants to provide persuasive evidence to show on the balance of probabilities the approval of a project on its terms is reasonably likely to cause harm to the natural resource or the Appellants use of the same.<sup>34</sup>

[77] The Town in its closing statement to the Board stated if the onus on the Appellant is to only provide evidence to establish there is a legitimate concern about the completeness and accuracy of the approval where there is potential for harm, as asserted by Ms. Alexander, then

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<sup>32</sup> See Rebuttal Written submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraphs 16.

<sup>33</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 63 and 64.

<sup>34</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraph 122.

effectively the onus is placed on the Town and Director to disprove the Appellant's submissions. This would render the approval process redundant.

## 2. Analysis

[78] It is the Board's view, as in *Fenske*, that the onus is on the Appellants to provide sufficient evidence and argument to demonstrate to the Board the Director's decision should be reversed or varied. The onus on the Appellants is to raise more than mere speculation. The Appellants must provide sufficient, reliable, and relevant evidence to show on the balance of probabilities the Board should recommend to the Minister the decision of the Director should be varied or reversed.

[79] The Board in *Fenske* was considering an appeal of an amendment to an approval issued under EPEA. In considering the onus of proof, the Board stated while the Appellants provided valuable evidence about their concerns, they did not provide enough evidence to the Board to justify reversing the Director's decision. The Board went on to state "...this does not mean the Board is content with the information that the Approval Holder filed in its application ...or presented at hearing."<sup>35</sup>

[80] In *Fenske*, the Board found the Appellants did not provide enough evidence to justify reversing the decision. However, it was the Board's view that in the application and at the hearing, questions were raised about issues that could not be answered by the Approval Holder's or the Director's witnesses. On this basis, the Board in *Fenske* recommended the approval be varied to require the Approval Holder provide additional information to the Director.

[81] Based on *Fenske*, the Board is of the view the Appellants concerns must be more than speculative. The Board understands that it may be difficult for appellants to assess technical information contained in approval applications, and that it would be expensive for appellants to employ their own technical experts to assess the information or gather new information. However, appellants need to provide sufficient, reliable, and relevant evidence to show on the balance of probabilities that the Board should recommend to the Minister the decision of the Director be reversed or varied. Otherwise, the onus of proof would effectively be placed on the Town and the

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<sup>35</sup> *Fenske* at paragraphs 41 and 42.

Director to disprove the speculative allegations of the Appellants and establish the decision to issue the Approvals was appropriate and the terms and conditions adequate. The Board sees no reason in the current circumstance to depart from the Board's determination in *Fenske*. As stated by the Town, to do so would render the approval process redundant.

### C. Precautionary Principle

#### 1. Submissions

[82] Aurora, Ms. Davis, and Mr. Hill did not provide submissions regarding the precautionary principle.

[83] Ms. Alexander submitted the Director erred in his decision to issue the Approvals as he did not apply the precautionary principle to his decision. Ms. Alexander submitted the precautionary principle was affirmed by the Supreme Court of Canada in *114957 Canada Ltée (Spraytech, Société d'arrosage) v Hudson (Town)* ("*Spraytech*") as follows:

"In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation."<sup>36</sup>

Ms. Alexander alleged the Director erred in issuing the Approvals as he relied on untested assumptions, errors, omissions, and uncertainties in making his decision to issue the Approvals. In doing so, the Director failed to meet the purpose of the Act set out in section 2(a)<sup>37</sup> and failed to

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<sup>36</sup> See *114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town)*, 2001 SCC 40 at paragraph 31 where Madam Justice L'Heureux-Dubé affirmed the precautionary principle as stated in the Bergen Ministerial Declaration of sustainable Development (1990). See also Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraph 54 where Ms. Alexander noted that *Spraytech* was applied by the Supreme Court of Canada in *R v Castonguay Blasting Ltd.*, 2013 SCC 52 and referred to Justice Abella's statement at paragraph 20 that the precautionary principle: "... recognizes that since there are inherent limitations in being able to determine and predict environmental impacts with scientific certainty, environmental policies must anticipate and prevent environmental degradation."

<sup>37</sup> Section 2(a) provides:

"2 The purpose of this Act is to support and promote the conservation and management of water, including the wise allocation and use of water, while recognizing  
(a) the need to manage and conserve water resource and to ensure a healthy environment and high quality of life in the present and the future;"

properly apply the precautionary principle to ensure protection of the environment in the face of uncertainty.<sup>38</sup>

[84] Ms. Alexander also disputed the Town's assertion that to apply the precautionary principle it needs to be demonstrated there will be serious or irreparable harm to the environment. Ms. Alexander argued the Supreme Court of Canada in *Spraytech* required only a threat of serious or irreversible damage to invoke the precautionary principle.<sup>39</sup>

[85] According to Ms. Alexander the concept of adaptive management relied upon by the Town also did not apply to the current situation as inadequate information and errors were relied upon in issuing the Approval. Ms. Alexander submitted that an interpretation of adaptive management as an exception to the precautionary principle runs contrary to the purpose of an environmental approval process. Ms. Alexander referred to the Federal Court decision in *Taseko Mines Limited v Canada (Environment)*<sup>40</sup> that stated the acceptance of adaptive management schemes would call into question the value of the review panel process.

[86] Ms. Alexander also argued it was implied in the Town's submissions that the precautionary environmental protection should only apply if such measures do not interfere with economic development. Ms. Alexander rejected this assertion and argued while economic principles must be considered, the Director must also consider serious environmental impacts and by relying on inadequate information he failed to apply the precautionary principle in issuing the Approvals.

[87] The Town disputed Ms. Alexander's assertion the precautionary principle as set forth in *Spraytech* applied to the current situation before the Board. The Town asserted, for the precautionary principle to be applied, it needed to be demonstrated there would be serious or irreparable harm if the Project proceeded. The Town argued the principled approach to balancing interests of the conservation and management of water with the competing factors articulated in the Act reflected the concept of adaptive management which has been evolving in caselaw and

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<sup>38</sup> Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraph 147.

<sup>39</sup> Rebuttal Written submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraph 53.

<sup>40</sup> *Taseko Mines Limited v Canada (Environment)*, 2017 FC 1099 at paragraph 124.

literature in response to the development of the precautionary principle. In support of their argument, the Town referred to the decision of Mme. Justice Tremblay-Lamar in *Pembina Institute for Appropriate Development v Canada (Attorney General)* with respect to adaptive management where it was stated:

“...adaptive management permits projects with uncertain, yet potentially adverse environmental impacts to proceed based on flexible management strategies capable of adjusting to new information regarding adverse environment impacts where sufficient information regarding those impacts and potential mitigation measures already exists.”<sup>41</sup>

[88] The Town submitted the adaptive approach was the principled approach to follow as the Town’s modeling was robust and illustrated there would be only negligible impact because of the Project, and there was no persuasive evidence the science was wrong, incomplete, or invalid or evidence the Project would cause serious or irreparable harm. The Town further submitted an adaptive management approach was appropriate as the Approvals were not static but required ongoing checks and reporting for feedback to AEP. The Town argued that they had provided an aggregation of scientific data that met or exceeded AEP requirements to establish negligible impact on downstream water bodies because of the Project. The Town submitted the Approvals were appropriate as they achieved the balance of environmental and water protection while encouraging sustainable environmental and economic growth.<sup>42</sup>

[89] The Director rejected Ms. Alexander’s assertion the Director failed to meet the guidance of the precautionary principle as defined in *Spraytech*. The Director submitted the precautionary principle does not require absolute scientific knowledge or preclude all development that could impact the environment as this would be an impossible standard that does not accord with the direction set out in section 2 of the Act. The Director argued the precautionary principle had no applicability to the current situation because the Director had extensive scientific and technical information to rely on in making a reasonable, informed decision and Ms. Alexander had

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<sup>41</sup> *Pembina Institute for Appropriate Development v. Canada (Attorney General)* 2008 FC 302, 2009 CarswelNat 2389 (FC) (leave to appeal denied).

<sup>42</sup> Respondent Approval Holder’s Initial Appeal Submissions dated May 31, 2021, at paragraphs 136 to 139.

not established there was a lack of scientific certainty about the impact of the Approvals on the environment or provided evidence of serious or irreversible damage to the aquatic environment.<sup>43</sup>

## 2. Analysis

[90] Ms. Alexander asserted the decision of the Director should be reversed as the Director relied on untested assumptions, errors, omissions, and uncertainties in making his decision to issue the Approvals and in doing so failed to apply the precautionary principle to ensure the protection of the environment. The Town and the Director asserted the precautionary principle does not apply to the current situation.

[91] The precautionary principle that was adopted in the Supreme Court of Canada in *Spraytech* is a two-part test. The test provides that where there is a threat of “serious or irreversible damage [to the environment], lack for full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.”<sup>44</sup> A plain reading of *Spraytech* makes it clear that development is not prohibited but it needs to be undertaken with appropriate measures in place to prevent environmental degradation. *Spraytech* states that to achieve sustainable development, “environmental measures must anticipate, prevent and attack the causes of environmental degradation.”<sup>45</sup>

[92] In the circumstance of this case, with the appropriate terms and conditions in place, the Board is of the view the impact on the environment will not be significant. The impact is not of the “serious or irreversible” nature contemplated by *Spraytech*. The environmental measures (the terms and conditions) that have been put in place in the Approvals, including the additional recommendations of the Board, “anticipate, prevent and attack the causes of environmental degradation.”

[93] Further, the environmental impacts caused by this type of development are well know and understood. Respectfully, the Board rejects Ms. Alexander argument that the Director

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<sup>43</sup> Director’s Written Submissions dated May 31, 2021, at paragraphs 160 to 162.

<sup>44</sup> The Supreme Court of Canada in *Spraytech* at paragraph 31, quoting the *Bergan Ministerial Declaration on Sustainable Development (1990)* at paragraph 7.

<sup>45</sup> The Supreme Court of Canada in *Spraytech* at paragraph 31, quoting the *Bergan Ministerial Declaration on Sustainable Development (1990)* at paragraph 7.

relied on untested assumptions, errors, omissions, and uncertainties in making his decision to issue the Approvals. The work undertaken by the Town, including the modelling, is beyond that of what is normally expected with respect to a project of this nature, and is not scientifically uncertain.

[94] This is not a case like *Alberta Foothills* or *Crowsnest Pass*, where there was scientific uncertainty regarding whether the water being requested for licencing was connected to surface water.<sup>46</sup> In both cases, the Board upheld the decision to refuse to issue a water licence on the basis there was insufficient scientific basis for finding that the water was not connected to surface water. In southern Alberta, there is a moratorium in place on the issuance of water licences for surface water or groundwater connected to surface water. In applying the precautionary principle, neither the *Alberta Foothills* project nor the *Crowsnest Pass* project could be licenced.

[95] This is a case like *Mikisew*, where the Board found that the Director had “integrated” the precautionary principle by prescribing terms and conditions that addressed potential problems and minimized harm to the appellants, the public, and the environment.<sup>47</sup> In *Mikisew*, the First Nation appealed a decision to issue a *Water Act* approval to an oilsands processing plant and mine. While the appeal was dismissed for being filed out of time, the First Nation argued that an extension to the deadline should be granted because of the precautionary principle. Specifically, the First Nation argued the precautionary principle should apply because of “...uncertain effects of unproven technology on the environment are such that irreparable harm could occur if they are not adequately dealt with.”<sup>48</sup> The Board rejected this argument based on a review of the terms and conditions in the approval, and in particular the monitoring conditions.

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<sup>46</sup> *Alberta Foothills Properties Ltd. v. Director, Southern Region, Operations Division, Alberta Environment and Sustainable Resource Development* (20 December 2013), Appeal No. 11-179-R (A.E.A.B.), 2013 ABEAB 40 (“*Alberta Foothills*”) and *Municipality of Crowsnest Pass v. Director, Southern Region, Environmental Management, Alberta Environment* (23 December 2009), Appeal No. 08-016-R (A.E.A.B.), 2009 A.B.E.A.B. 27 (“*Crowsnest Pass*”).

<sup>47</sup> *Mikisew Cree First Nation v. Director, Northern Region, Regional Services, Alberta Environment re: TrueNorth Energy L.P.* (21 April 2005), Appeal No. 02-144-D (A.E.A.B.), 2005 ABEAB 20 (“*Mikisew*”), at paragraph 53.

<sup>48</sup> *Mikisew Cree First Nation v. Director, Northern Region, Regional Services, Alberta Environment re: TrueNorth Energy L.P.* (21 April 2005), Appeal No. 02-144-D (A.E.A.B.), 2005 ABEAB 20 (“*Mikisew*”), at paragraph 52.

The Board held that these terms and conditions "...are all indicative of the precautionary principle being applied with the Approval."<sup>49</sup>

[96] With respect to the precautionary principle, the Board's role is to consider the degree and nature of the uncertainty, and whether what if anything can be done by the Board to mitigate the uncertainty. The language adopted by the Supreme Court of Canada makes plain that the precautionary principle is only intended to be engaged in circumstances where scientific uncertainty exists, and once engaged, additional protective measures should be put in place. Therefore, the Director when faced with scientific uncertainty and potential environmental damage, has two potential courses of action. The Director may require additional terms and conditions such as monitoring, and amending, which allow the Director to be responsive should environmental consequences occur. Alternatively, in the much more extreme cases of scientific uncertainty and greater risk of consequences, the Director can choose to deny the application for the authorization. Ms. Alexander also argued the Director failed to meet the purpose of the Act in issuing the Approvals as he relied on untested assumptions, errors, omissions, and uncertainties in making his decision to issue the Approvals and in doing so failed to ensure the protection of the environment in the face of uncertainty, as required by section 2(a) of the Act which states:

"2 The purpose of this Act is to support and promote the conservation and management of water, including the wise allocation and use of water, while recognizing

(a) the need to manage and conserve water resource and to ensure a healthy environment and high quality of life in the present and the future;"

[97] While the Board recognizes section 2 of the Act states its purpose is to support and promote the conservation and management of water, the Board notes that the remainder of section 2 also requires the Director to consider and balance other competing factors when making his decision including "the need for Alberta's economic growth and prosperity". As will be discussed later in this Report and Recommendation, at the hearing the Board heard submissions regarding the need of the Town for additional residential development. The Town explained to the Board

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<sup>49</sup> *Mikisew Cree First Nation v. Director, Northern Region, Regional Services, Alberta Environment re: TrueNorth Energy L.P.* (21 April 2005), Appeal No. 02-144-D (A.E.A.B), 2005 ABEAB 20 ("*Mikisew*"), at paragraph 52.



that it had considered several options when designing the Project, but the proposed design was the only one that followed the natural drainage pattern and was the most economic. The Board also heard from the Town that the Project complied with the provisions of the Act and applicable AEP policies and guidelines, the purpose of which is to ensure the Town addressed environmental risks and mitigation measures applicable to the proposed Project as part of pre-development planning process. In addressing compliance with the Act and AEP guidelines and policies, the Town explained it developed a detailed MSMP, responded to the Director's SIRs and undertook extensive public consultation. The Town further elaborated the MSMP included a detailed monitoring plan and a commitment to participate in a Lake Management Plan which the Town stated recognized the need to ensure the Project operated as modeled.

[98] It is the Board's view that the Town's application for the Project contained more than vague assurances that the Town would assess environmental risk in the future. On its face, the Town's application contained detailed modeling and plans to ensure environmental risks were addressed and mitigation measures formed part of the Approvals; applicable legislation and policy requirements were met; and the Town considered both the need for the continued economic growth of the Town of Blackfalds and the need to ensure the conservation and management of water.

## V. Evidence and Arguments

### A. Intervenors

[99] Aurora asked the Board to uphold the Director's decision to issue the Approvals. Mr. Ron Henschel, Manager of Development for Aurora Heights Management Ltd., presented on behalf of Aurora at the hearing. Mr. Henschel provided history of the stormwater management concept for their residential development. Mr. Henschel stated the original stormwater management plan was for a closed system that would have retained all water on site. Over the last seven years, with the concurrence of AEP and the Town, the concept evolved into a 7.1 hectare "naturalized sustainable wetland." The naturalized sustainable wetland consisted of a storm pond forebay for sediment removal that would feed into the Town's proposed outfall and would have little impact on Lacombe Lake as shown in Stantec modeling. Mr. Henschel noted Aurora was currently using a temporary pond for its existing development but was still waiting for final approval of its stormwater management system. Mr. Henschel explained final approval would not

be provided until Aurora could connect to the NW Stormwater Management System and without the Approvals, Aurora would not have an outfall for its housing development. Mr. Henschel indicated Aurora could build 20 or 30 more homes with its temporary pond but without the Approvals, Aurora would be incurring costs to operate and maintain the site and would not be receiving income. Mr. Henschel stated this would make Aurora unviable.

[100] Aurora submitted the nature of the site of the proposed naturalized sustainable wetlands for its development had changed over time, and provided aerial photos from 1994 and 1997, with the 1994 photos showing almost no standing water, and the 1997 photos showing significant standing water. Aurora supplied a wetland report from CPP Environmental that speculated the wetlands currently existing were due to road development, railway construction, and urban development, and that the historical natural status of the wetland was ephemeral.

[101] Aurora submitted it is possible Lacombe Lake water levels have been disrupted by past development and as a result water had pooled in the proposed naturalized wetlands area. Aurora argued the outfalls from the development could help restore Lacombe Lake to a more natural historical level and AEP's change from requiring an on-site containment system to an outfall feeding into a natural watershed was an attempt to help balance and sustain wetlands and lakes in the same watershed.

[102] Aurora submitted they have incurred substantial expenses for the stormwater design and preliminary construction to ensure the stormwater design concept for the residential development was consistent the MSMP, and contaminants and sediments were naturally filtered through a wetland that was sustainable, natural, and aesthetically pleasing. Mr. Henschel submitted the stormwater management facility designed by its consultants followed or exceeded current Alberta environmental standards.

[103] Aurora described their stormwater management plan to the Board, which they submitted was designed to self-contain snow melts and rainfall on-site through a catchment area and berm, treat stormwater prior to discharge, and to provide a low rate of discharge of water into the naturalized wetland around their site. Aurora further submitted their plan included a naturalized sustainable wetland designed to connect to Pond A of the Project and to restrict drainage rates to the pre-development flow rate of 2.0 L/s/ha in accordance with the MDP.

[104] Aurora noted there were other sources of possibly polluted water flowing into Lacombe Lake that was affecting water quality. Aurora argued it would be a mistake to assume water flow from their development would negatively affect water quality as site development addressed volume and quality of the water being discharged.

**B. Appellants**

1. Ms. Anita Alexander – Appellant

[105] Ms. Alexander owns property on the east side of Lacombe Lake. She stated she and her family have owned property on Lacombe Lake since 1960 which they used and enjoyed for recreational purposes including swimming, boating, viewing birds and wildlife, and relaxation.<sup>50</sup>

[106] At the hearing, Ms. Alexander stated the appeals before the Board were about “errors, omissions, inconsistencies, and misinterpretations that resulted in the Director incorrectly and unreasonably issuing the approvals in question.” She further stated, “[u]nlike some appeals where it’s a battle of experts as to whether certain adverse impacts are not likely to occur, these appeals are about errors and omissions apparent on the face of the record.”

[107] Ms. Alexander alleged the Director failed to properly consider the evidence before him and erred in law in issuing the Approvals. Ms. Alexander requested the Approvals be overturned, the Board recommend the Minister direct the Director to consider alternatives to the Project that do not drain stormwater from northwest Blackfalds to Lacombe Lake, and further the Board make such recommendations to the Minister as the Board deems necessary to protect the recreational and ecological value of Lacombe Lake.

[108] Ms. Alexander presented the following evidence and arguments advancing four main arguments at the hearing:

1. The Director erred as he failed to identify an adequate outlet.
2. The Director erred as he failed to require a comprehensive water quality study.
3. The Director erred as he failed to require a detailed hydrogeological field investigation.

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<sup>50</sup> Affidavit of Anita Alexander affirmed May 13, 2021, at paragraph 1.

4. The Director erred as he failed to consider the cumulative environmental impacts of the authorized activities.
5. The Director erred as he failed to require adequate monitoring downstream of the NW Stormwater Management System.

*An Adequate Outlet was not Identified*

[109] Ms. Alexander alleged the Director erred in issuing the Approvals as the Town failed to identify an adequate outlet for the Project as required by Approval 1 and the Director did not address the cumulative environmental impact of the authorized activities on water flow, levels, and shoreline erosion.

[110] Ms. Alexander submitted Approval 1 required the Town identify an adequate outlet that meets the requirements of the “adequate outlet” definition set out in Condition 1.1(h) of Approval 1. This definition provides that if alterations or changes in water flow, level or impacts on siltation or erosion or the aquatic environment are ‘measurable’ the outlet is not adequate.<sup>51</sup> Ms. Alexander argued that the Project caused measurable changes in water flow and level and had a measurable adverse effect on the aquatic environment of Lacombe Lake, therefore Lacombe Lake could not be an adequate outlet as argued by the Director.

[111] Ms. Alexander argued the Director, in error, applied the definition of adequate outlet set out in the 2006 SGDs and 2018 AEP Fact Sheet. The 2006 SGDs contain a definition of adequate outlet<sup>52</sup> that is similar to that found in condition 1.1(h) of Approval 1, but when the 2006

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<sup>51</sup> Rebuttal Written Submissions of Anita Alexander dated June 20, 2021, at paragraphs 27 to 31. See also *Water Act* Approval No. 00387959-00-00 at Condition 3.3 as follows:

“Prior to commencement of construction, the Approval Holder shall either obtain an easement registered against title to the lands or right of access occupation for all storm water outfall(s) and discharge route(s) to an adequate outlet(s).”

Further Condition 1.1(h) defines ‘adequate outlet’ as follows:

“Adequate Outlet” means a storm drainage discharge outlet to a receiving body that does NOT measurably:

- i. Alter the flow or level of the water body receiving the storm drainage, whether temporarily or permanently,
- ii. Change or be capable of changing the location of the water or the direction of flow of water in the water body receiving the storm drainage,
- iii. Cause or be capable of causing the siltation of water or the erosion of any bed or shore of the water body receiving the storm drainage, and
- iv. Cause or be capable of causing an adverse effect on the aquatic environment.”

<sup>52</sup> Storm Guidance Document (March 2006) at page 6.

SGDs are read together with the definition of ‘measurable’ found in the 2018 Fact Sheet, an outlet would be considered adequate even if a change, alteration or effect is measurable, provided it is insignificant. The definition of ‘measurable’ found in the 2018 Fact Sheet is as follows:

“[m]easurable changes, alterations or effects are those that can be measured using current technologies; and when compared to the pre-development storm flow conditions demonstrate that a change, alteration or effect has or has not occurred or is insignificant.”<sup>53</sup> [Emphasis added.]

Ms. Alexander argued the effect of applying the definition of the adequate outlet found in the 2006 SGDs and the 2018 Fact Sheet would mean that where a change, alteration or effect is measurable but insignificant, all other elements of the definition of adequate outlet set out in the Approval would be irrelevant and not considered. She submitted, that a change is “measurable” if it can be measured by current technologies and if the reference to “significance” relied on by the Director had any application, it only applied to the question of whether any adverse effect was significant.<sup>54</sup>

[112] Ms. Alexander submitted the Stantec modeling showed measurable changes in water flow or level of Lacombe Lake and as a result Lacombe Lake was not an adequate outlet for the Project. She argued post-development outflows from the Lake ranged from a 9.1% increase over pre-development outflows (from 0.055 m<sup>3</sup>/s to 0.060 m<sup>3</sup>/s)<sup>55</sup> for the single event analysis for a 1:2-year storm event as set out in the Hydrological Assessment; to a 235% increase (from 222 x 10<sup>3</sup>m<sup>3</sup> pre-development to 524 x 10<sup>3</sup>m<sup>3</sup> post-development)<sup>56</sup> as set out in the Water Quality Assessment; to a 931.6% increase as described in the continuous simulation analysis for Scenario 4 over the pre-development condition. Ms. Alexander noted the continuous simulation model developed by Stantec showed the post-development maximum level of Lacombe Lake could increase from 0.031 metres to 0.231 metres over pre-development levels based on the differing continuous simulation scenarios modeled.<sup>57</sup> Ms. Alexander submitted these were measurable

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<sup>53</sup> 2018 Alberta Environment factsheet, *Water Act; Storm Water Management* at paragraph 148.

<sup>54</sup> Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraphs 31 to 35.

<sup>55</sup> Town of Blackfalds Northwest Area Master Stormwater Management Plan (May 30, 2018) at Table 5.4 “Continuous Simulation Downstream Hydraulic Characteristics”, Director’s Record Tab 345.

<sup>56</sup> Town of Blackfalds Northwest Area Master Stormwater Management Plan (May 30, 2018), Appendix C, at Table 11, Director’s Tab 345.

<sup>57</sup> Town of Blackfalds Northwest Area Master Stormwater Management Plan (May 30, 2018) at Table 5.4, Director’s Tab 345.

increases in both Lacombe Lake outflow and levels and therefore Lacombe Lake was not an adequate outlet for the Project as defined by the 2006 SGDs and the Approval. Ms. Alexander stated the failure of the Project to meet the requirements under condition 1.1(h)(i) of Approval 1 was sufficient grounds for the Board to overturn the Approvals.

[113] Ms. Alexander also argued it was incongruous for the Director to argue an adequate outlet was not required for the Project or the inclusion of a requirement for an adequate outlet in Approval 1 was inadvertent as the record showed the Town or AEP referenced the intent to require an adequate outlet for the Project multiple times, including in correspondence with Aurora.<sup>58</sup>

[114] Ms. Alexander alleged the Director's conclusions in his Decision Statement are not supported by the evidence because the increased lake levels and flows predicted by the MSMP would exacerbate historic lake level issues and cause measurable increases in shoreline erosion, siltation, and loss of property values. Ms. Alexander alleged in arguing Lacombe Lake was an adequate outlet for the Project, the Director did not address the cumulative environmental impact on Lacombe Lake which already suffered from high water levels.

[115] Ms. Alexander described to the Board how Lacombe Lake had historical issues with flooding impacting the use of Lacombe Lake which should have been considered by the Director when assessing the need for an adequate outlet. She detailed how Lacombe Lake had experienced a rapid increase in water levels of the lake due to the construction in the 1970's of a weir at the outlet of the lake to Whelp Brook. She noted the weir was constructed 2 feet higher than the level agreed upon by the County of Lacombe and lake property owners which caused Lacombe Lake to flood.<sup>59</sup> Ms. Alexander described how a beach used by her family on her property was flooded and how her family had constructed a retaining wall. Ms. Alexander provided photographic evidence from 2017 showing the retaining wall had become submersed in the lake.<sup>60</sup> Ms. Alexander confirmed a portion of the retaining wall remained under water.

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<sup>58</sup> Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraphs 56 and 57 and Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraphs 36 to 39.

<sup>59</sup> Affidavit of Ms. Anita Alexander affirmed May 13, 2021, at paragraphs 5 to 9.

<sup>60</sup> Affidavit of Ms. Anita Alexander affirmed May 13, 2021, at photograph E-3.

[116] Ms. Alexander also provided additional photographic evidence of flooding from 2019 and 2020. The photographs showed in 2019 the weir structure obstructed with mud, sticks and debris interfering with the flow of water from Lacombe Lake through the weir to Whelp Brook<sup>61</sup> and in 2020 damage to and loss of trees located on an area of her property referred to as the “Point”.<sup>62</sup> Ms. Alexander acknowledged while the flooding due to the weir has been mitigated in part by the changes made in 2018 and 2019, she submitted shoreline flooding continued at her property, the Point was now difficult to access, and hundreds of trees had been lost or damaged due to rising lake levels.

[117] Ms. Alexander alleged the Director in error relies on the modeled post-development unit discharge rate of 0.477 L/s/ha for a 1:100-year storm event being less than the required MDP unit discharge rate of 2.0 L/s/ha to show the Project would not adversely impact the lake and as justification for his decision to issue the Approvals. Ms. Alexander alleged the unit discharge rate failed to address whether increases in the water flow and water level were “measurable;” are not evidence the Project would not cause any significant adverse effect on the lake; are based on regional data; and are without field confirmation for Lacombe Lake watershed. Ms. Alexander also noted the MSMP does not explain how the post-development single event unit discharge rate of 0.477 L/s/ha for a 1:100-year storm event, as shown in the Stantec modeling, would be 76% lower than the pre-development discharge rate despite the addition of 490 hectares of urban development to the catchment area that drains into Lacombe Lake.<sup>63</sup>

*A Comprehensive Water Quality Study was not Required*

[118] Ms. Alexander alleged the Director erred in his decision to issue the Approvals as he failed to require a comprehensive water quality study and failed to address the errors, omissions, and inconsistencies in the Town’s application regarding water quality.

[119] Ms. Alexander alleged the Director’s conclusion that there was no adverse impact on water quality because of the Project was inconsistent with the recreational and biological

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<sup>61</sup> Affidavit of Ms. Anita Alexander affirmed May 13, 2021, at photographs G-1, G-2, and G-3.

<sup>62</sup> Affidavit of Ms. Anita Alexander affirmed May 13, 2021, at photographs H-1, H-2, and H-3

<sup>63</sup> See Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraph 66 to 68 and Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2012, at paragraph 22 to 26.

importance of the lake and failed to follow the guidance found in the 1999 SMGs at sections 5.3 and section 5.3.1 that relate to the need for a water quality assessment and data collection.<sup>64</sup>

[120] Ms. Alexander submitted the 1999 SMGs required a comprehensive study as there was potential to aggravate an existing water quality problem<sup>65</sup> and under the 1999 SMGs, the Project fell into the category of stormwater discharges requiring a more comprehensive analysis because a “municipal water supply, recreational area or particularly sensitive biological resource is likely to be affected”.<sup>66</sup>

[121] Ms. Alexander alleged the Director erred in relying on the Water Quality Assessment as it only provided an analysis of a single pollutant: phosphorous; was not based on collecting site-specific field data; and included unsupported assumptions from which the Director drew unsupported conclusions.

[122] Ms. Alexander submitted the Director failed to explain the difference in the pre-development discharge flow rate of 32,000 m<sup>3</sup>/year<sup>67</sup> used in the MSMP for hydrological modeling and the pre-development discharge flow rate of 222,000 m<sup>3</sup>/year<sup>68</sup> used in modeling for the Water Quality Assessment.

[123] Ms. Alexander also submitted the Director failed to explain why post-development increases in discharge volumes from Lacombe Lake used in the MSMP hydrological modeling ranged from 35.0% for Scenario 6, the most likely scenario under the continuous simulation modeling, to 931.6% for Scenario 4, the most conservative scenario under continuous simulation modeling, to 235% in the Water Quality Assessment.<sup>69</sup>

[124] Ms. Alexander argued the Director erred in relying on the Water Quality Assessment modeling to conclude there would be a small decrease in concentration of total

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<sup>64</sup> Storm Water Management Guidelines for the Province of Alberta (1999) at paragraph 5.3.

<sup>65</sup> See Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraph 84 where Ms. Alexander referred to the second paragraph of section 5.3 and the first paragraph of 5.3.1 of the (1999) SMGs and Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraphs 45 to 49.

<sup>66</sup> Stormwater Management Guidelines for the Province of Alberta (1999), at paragraph 5.3.

<sup>67</sup> Northwest Area Master Stormwater Management Plan at 5.11, Director’s Record, Tab 345.

<sup>68</sup> Water Quality Study at 16, 19, Director’s Record, Tab 348.

<sup>69</sup> See Northwest Area Master Stormwater Management Plan at 5.11, Director’s Record, Tab 345 and Water Quality Downstream of Proposed Development, Table 11, Director’s Record, Tab 348.



phosphorus in the lake.<sup>70</sup> Ms. Alexander submitted if the 35% increase in outflow volumes from the lake as shown in Scenario 6, the most likely scenario, was applied to the water quality modeling, phosphorus concentrations in the lake would increase from 0.021 mg/L in pre-development conditions to 0.033 mg/L post-development, a 57% increase in phosphorus concentration in the lake.<sup>71</sup>

[125] Ms. Alexander submitted the Director erred as he failed to consider that post-development phosphorous load on the lake would double from 38 kg/year to 81 kg/year and phosphorus uptake in the lake would increase from 33 kg/year to 71 kg/year based on a removal efficiency in Lacombe Lake of 88%.<sup>72</sup> Ms. Alexander alleged the Director's statement that "it was unlikely the Stormwater Management System will result in any measurable change in cumulative load or water quality for total phosphorus in Lacombe Lake"<sup>73</sup> was not supported by the Water Quality Assessment and the *Environmental Quality Guidelines for Alberta Surface Waters* requirement that there be no increase in total phosphorous over existing conditions for Alberta lakes.<sup>74</sup> Ms. Alexander also noted that the Director failed to consider AEP's Senior Fisheries Biologist's statement that the "Upper Battle River watershed had significant alterations and landscape changes where water quality is known to be a high concern"...and "[a]dding more nutrients will only contribute to this issue".<sup>75</sup>

[126] Ms. Alexander argued the Director erred in relying on the Water Quality Assessment as it failed to properly model the deterioration of the removal rate of phosphorus through the multiple ponds leading to an inaccurate conclusion regarding the total removal rate of phosphorous.<sup>76</sup> Ms. Alexander argued a 50% removal rate for phosphorus maintained through

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<sup>70</sup> Water Quality Downstream of Proposed Development at 16, Director's Record, Tab 348.

<sup>71</sup> Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraphs 40 and 41.

<sup>72</sup> See *Water Quality Downstream of the Proposed Development* letter dated May 8, 2020, from Stantec Consulting Ltd. to Town of Blackfalds at page 19.

<sup>73</sup> Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraph 42.

<sup>74</sup> Alberta Environment and Sustainable Development, *Environmental Quality Guidelines for Alberta Surface Waters*, (2018), at 39, Director's Record, Tab 339.

<sup>75</sup> See Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraphs 92-95 and Jason, Cooper, Senior Fisheries Biologist, Alberta Environment and Parks, "Email to Gordon Ludtke", (July 4, 2017) at Director's Record, Tab 197.

<sup>76</sup> Rebuttal Written Submissions of Anita Alexander, Appellant dated June 20, 2021, at paragraph 43.

three wet ponds in a series, resulting in an 88% removal rate, was unsupportable. She noted the Town acknowledged such rates may not be maintainable.

[127] Ms. Alexander submitted the Director erred in his reliance on the Water Quality Assessment as it failed to provide a detailed assessment of other pollutants including nitrogen, metals, chloride, oil, and grease or to consider the effect on the temperature of the lake as result of storing water in retention ponds. Ms. Alexander alleged the Water Quality Assessment improperly assumed similar removal rates for different pollutants, did not consider the pre-development condition of Lacombe Lake with respect to the specific pollutant, and did not determine the impacts of different contaminants on the lake.

[128] At the hearing, Ms. Alexander explained to the Board that stormwater would affect Lacombe Lake very badly and the Project lacked baseline testing in Lacombe Lake for other chemicals such as copper and zinc. Ms. Alexander stated she was also concerned about any amount of stormwater entering the lake due to the size of the northwest Blackfalds development and her experiences with the weir and backflow from Whelp Brook causing damage to Lacombe Lake. Ms. Alexander stated the Town should be responsible for managing their own stormwater and a closed system would be preferable.

[129] Ms. Alexander submitted the Director and AEP's Senior Water Administration Engineer, Mr. Ludtke, erred by rejecting AEP's Water Quality Specialist's request for additional information regarding the potential impacts of the Project to downstream water quality and determining such information requests could be deferred to future monitoring. Ms. Alexander argued the Director should have had that information available to him when he rendered his decisions on the Approvals.<sup>77</sup>

*A Detailed Hydrogeological Field Investigation was not Required*

[130] Ms. Alexander alleged the Director erred in his decision to issue the Approvals as he failed to require a detailed hydrogeological field investigation as recommended by Mr. Bing Han, Regional Hydrogeologist with AEP.

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<sup>77</sup> Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraphs 110 to 112.

[131] Ms. Alexander submitted that email correspondence showed Mr. Han had recommended that additional field studies be completed to confirm the findings of the Hydrogeological Assessment and that stormwater infiltration rates in the study area be confirmed through direct measurements in the field or laboratory testing. Ms. Alexander argued the Director erred in relying on the desktop Hydrogeological Assessment to issue the Approvals as he failed to require the Town complete the field studies.

*The Cumulative Environmental Impacts of the Authorized Activities were not Considered*

[132] Ms. Alexander submitted the Director erred as he failed to conduct a proper analysis and consider the cumulative environmental effect of the changes in water flows, water levels and water quality on the recreational use and ecological values of Lacombe Lake.

[133] Ms. Alexander submitted the MSMP contained no analysis of the potential impacts of increased water flows and levels or changes in water quality on shoreline vegetation, fish, waterfowl, shore nesting birds or other wildlife found at Lacombe Lake. Ms. Alexander explained to the Board that hydrological modeling relied on the Lacombe Lake weir and Whelp Brook culverts being free of debris, a situation that has not been achieved with any regularity for many years and argued that predicted water levels and flow rates may not be correct. Ms. Alexander further submitted that while the Director concluded increases in water flows through the lake of 35.0% to 931.6% and increases in water levels of 0.008 metres to 0.231 metres were not significant, he provided no analysis of the impact on recreational use or ecological value of Lacombe Lake.

[134] Ms. Alexander stated that Lacombe Lake and her property are home to a wide variety of plant and animal species. At the hearing, Ms. Alexander's expert witness, Mr. Greg Wagner, professional wildlife biologist, provided evidence regarding the potential impact of increased water levels because of the Project. Ms. Alexander argued Mr. Wagner's preliminary analysis was an example of the type of study that should have been required by the Director and completed by the Town regarding shoreline vegetation, waterfowl, and other shoreline resident species and that the Director erred in relying on post-development monitoring to identify potential environmental impacts after they have occurred. Ms. Alexander also noted that under Scenario 4, Mr. Wagner stated most species would be impacted by the predicted increases in water levels and

there would be some loss of nests. However, Ms. Alexander also acknowledged under Scenario 6, Mr. Wagner's study showed, except for the Black Tern, birds breeding in nearshore habitats would likely be minimally impacted by the water levels increases predicted.<sup>78</sup> Ms. Alexander also submitted the Director should have defined acceptable lake levels, operational limits, water quality objectives and management plans before, not after approving the Project.

*Monitoring Downstream of the NW Stormwater Management System was not Required*

[135] The Director in his Decision Statement stated the Town had addressed concerns regarding stormwater quality affecting the aquatic environment by committing to monitor stormwater quality at the outlet of the linear wetland and Lacombe Lake for five years.<sup>79</sup> Ms. Alexander alleged the Director failed to address Lacombe Lake water quality concerns because proposed water sampling downstream of the linear wetland was required only if land access was available. Ms. Alexander submitted in failing to require such monitoring, the Director failed to require monitoring that would determine the quality of stormwater discharged into the Lake.

2. Ms. Antonietta Davis – Appellant

[136] Ms. Davis has owned property on Lacombe Lake since 2011. Ms. Davis represented herself at the hearing and presented the following evidence and arguments:

1. The Director erred as he did not require the Town to identify an adequate outlet for the Project; and
2. The Director erred as he failed to require an adequate study and monitoring of Pond D water levels, water flows and water quality both pre- and post-development.

*The Town Failed to Identify an Adequate Outlet for the Project*

[137] Ms. Davis argued the Director did not require the Town to identify which water body was the adequate outlet for the NW Stormwater Management System. Ms. Davis submitted

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<sup>78</sup> See Mr. Greg Wagner's report prepared May 2021, "Assessment of the Effects of the Town of Blackfalds Area Master Stormwater Management Plan on the Birds of Lacombe Lake where Mr. Wagner provided an analysis of birds that could be potentially impacted by the increased water levels predicted under Scenario 4 and 6 of the MSMP.

<sup>79</sup> Todd Aasen, "Decision Statement storm water approval and wetland disturbance 0037959-00-00 and 00391359-00-00, Town of Blackfalds NW Master Drainage Plan" (July 15, 2020).

if Pond D was considered the adequate outlet, there was no pre-development study as to what effect stormwater would have on the wetland. Alternatively, if Lacombe Lake was the adequate outlet, Ms. Davis alleged there is insufficient data to determine pre-development discharge which would bring into question the discharge rate modeling found in the MSMP.

*An Adequate Study and Monitoring of Pond D Water Levels, Water Flows and Water Quality Both Pre- and Post-development was not Required*

[138] Ms. Davis submitted that the Approvals had a negative impact on Khunen Park's Wetland (Pond D) and Lacombe Lake. Ms. Davis stated there were not enough studies done on Pond D, the impact of nutrients entering the lake and the impact on aquatic plants. Ms. Davis further stated that the impact of overland stormwater runoff from a residential, commercial, and industrial development was not known and stormwater from the Town should not flow into Lacombe Lake.

[139] Ms. Davis described to the Board her concerns as to how stormwater may affect the water level of the wetland and sedimentation and soil erosion between Pond D and Lacombe Lake. She stated there was a swampy wetland between Pond D and Lacombe Lake that had standing water in some areas with water in some areas of the wetland finding its way down a hill to Lacombe Lake. Ms. Davis argued that increased water levels in the wetland as result of the Project could possibly cause increased water levels, sedimentation, and soil erosion in Lacombe Lake. Ms. Davis stated the Water Quality Assessment showed the NW Stormwater Management System would increase the water flow to Lacombe Lake by 2 to 3 times the existing flow. This may increase the water level in Pond D and increase the rate at which water drains from Pond D which could cause increased erosion, a negative impact on the soil, and increased sedimentation at the south end of Lacombe Lake.

[140] Ms. Davis argued Pond D should be monitored post-development as it may have a higher water level than pre-development and it should be maintained at a normal level. Ms. Davis submitted maintenance of the water level and monitoring of water quality was necessary to determine if there is any erosion of Pond D's shoreline, the impact of the Project on nesting conditions for fowl and songbirds at Pond D, and to determine if soil erosion transferred sediments and phosphorus to Pond D and eventually Lacombe Lake.

[141] Ms. Davis submitted the Director erred as he did not require the Town to complete sufficient pre-development water data analysis of Pond D, the Approvals failed to protect Pond D and the aquatic life as they did not require measuring for levels of mercury, polycyclic aromatic hydrocarbons (“PAHs”), hydrocarbons and pesticides, and the Approvals did not include the monitoring of invasive species in all wetlands used in the Project. Ms. Davis furthered argued the Wetland Assessment and Water Quality Monitoring Program did not collect enough water data and did not provide a detailed inventory on aquatic life, fish or wildlife data on Pond D and the incomplete data would influence future decision making.

[142] Ms. Davis noted the Water Quality Assessment stated, “the NW development would increase the water flow 2 to 3 times the existing flow to Lacombe Lake” and Table 5.4 of the MSMP showed the discharge volume from Lacombe Lake, under the various modeling scenarios would increase from 4.5% to 1,007.1%.<sup>80</sup> Ms. Davis raised concerns regarding the ability of Lacombe Lake and the weir located at Whelp Brook to handle the increased water flow and the possibility of increased flooding post-development over historic flooding levels as a result of backflow from Whelp Brook into Lacombe Lake. Ms. Davis provided photographic evidence showing the backflow of Whelp Brook into Lacombe Lake in April 2020. Ms. Davis stated she had seen Whelp Brook backflow into Lacombe Lake with both the weir gate being open and closed and to her knowledge the County had never taken steps such as placing cement blocks to stop the backflow from Whelp Brook to the lake.

[143] At the hearing, Ms. Davis stated the Water Quality Assessment “states that the total amount of phosphorous entering the lake will double” and noted that “the Director states that the impact of total phosphorous load will not significantly impact the quality of Lacombe Lake or its aquatic environment.” Ms. Davis asserted the Water Quality Assessment did not take into consideration the total phosphorous load in the groundwater which may increase the phosphorous level of the lake and aquatic plant growth, decrease the level of dissolved oxygen and lead to algae bloom. Ms. Davis noted Mr. Jason Cooper, AEP Senior Fisheries Biologist had raised concerns about phosphorus with Mr. Gordon Ludtke, AEP Senior Water Administration Engineer.<sup>81</sup>

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<sup>80</sup> Appellant Ms. Antonietta Davis Submissions dated April 23, 2021, page 3.

<sup>81</sup> Appellant Ms. Antoinette Davis Submissions dated April 23, 2021, at page 4. Ms. Davis refers to the statement by Mr. Jason Cooper contained in an email dated July 4, 2017, to Mr. Gordon Ludtke that “Additionally

Ms. Davis provided examples of where Lacombe Lake had prolific plant growth such that Ms. Davis was unable to use a small electric boat as the vegetation wraps around the motor and the Central Alberta Rowing Club had to adjust its route.

[144] Ms. Davis argued the Director should have required the Town to collect runoff samples from the agricultural land on the west side of Lacombe Lake as well as runoff samples from the east side of the lake. Analysis of these samples should have included testing for mercury, PAHs, and hydrocarbon concentrations.

[145] Ms. Davis submitted the monitoring programs required by the Approvals did not address the full impact of hydrocarbons, PAHs, and mercury and water samples should be taken at south and north sides of Lacombe Lake and be supported by photo or videos taken on the south side of the lake for aquatic changes, and at Pond D for soil erosion. Ms. Davis explained to the Board if the NW Stormwater Management system went ahead there should be a water quality monitoring program for the term of the approvals and it should take water samples from Pond D to determine the effect of the stormwater on the wetlands.

[146] Ms. Davis submitted the Lacombe Lake Management Plan should include the wetlands used in the conveyance system and up to Whelp Creek and she had concerns over the funding and implementation of the plan.

### 3. Mr. James Hill – Appellant

[147] Mr. Hill resides next to the Lacombe Lake. Mr. Hill represented himself at the hearing and presented arguments and evidence at the hearing that the Approvals had been given without sufficient baseline data being obtained and adequate monitoring being pre-required. Mr. Hill stated that the Approvals were issued “without first obtaining all necessary background information and consequently, without taking into consideration all the ramifications and possible consequences in years to come.” Mr. Hill argued that until the necessary studies have been done and proven beyond a doubt the Project was safe to proceed, the Approvals should be withdrawn.

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Lacombe Lake has previously had complaints by local residents about aquatic weed growth...Adding more nutrients via storm water ponds will on exacerbate the situation...”.

[148] Mr. Hill argued the Town should be concerned Whelp Brook could back up into Lacombe Lake as Whelp Brook is one of the more heavily polluted waterways in Canada. Mr. Hill submitted clean water coming from the Project area had historically healed Lacombe Lake from the damage caused by the back-up of waters from Whelp Brook.

[149] Mr. Hill submitted the fundamental errors in the Approvals were that the Town had relied on third party out-of-date data, had not considered the build-up of phosphorous and nitrogen compounds, mercury, and hydrocarbons due to post-development change in flow to the lake and had failed to adequately study wildlife in the area. Mr. Hill acknowledged monitoring programs for a range of chemicals were provided post-development but stated “those readings will lose a lot of their significance if there is no baseline data with which to compare them.” Mr. Hill argued the Town and future developers must collect and monitor data pre-development, during construction and in perpetuity, and the results of such monitoring should be made public.

[150] At the hearing, Mr. Hill stated there may be other sources of contamination to Lacombe Lake that have never been measured or assessed. He argued that due to the lack of baseline data it is unknown what the combined effect of the other sources of contaminants and the stormwater from the NW Stormwater Management System would be. He also stated over time the forebays would lose effectiveness which would be evidenced by drifting sediments and impacts on plant life. Mr. Hill submitted instead of waiting for these late signs that something had gone wrong, it would be reasonable to monitor all areas including Lacombe Lake over the long term.

[151] Mr. Hill stated if the Project were to go ahead, a Lake Management Plan was needed sooner rather than later. He submitted he had concerns regarding the responsibility and obligation to pay for remediation and the make-up of the Lake Management Plan members.

### C. **Approval Holder**

[152] At the hearing a panel of expert witnesses for the Town provided the Board a detailed review of the Project including a review of the hierarchical approach in the Province for stormwater management; the timeline and AEP approval process for the Project; public consultation and engagement; and an overview of the technical studies and modeling techniques used to analyze the impact of the Project on water levels, flow rate and quality throughout the Project and on Lacombe Lake as well as future monitoring and reporting commitments. The Town



submitted the proposed NW Stormwater Management System met and exceeded AEP Standards and Guidelines. As stated by the Town in their closing statement to the Board, the NW Stormwater Management System would operate within its design parameters for a 1:100-year storm event without adverse effect to the environment.

[153] The Town submitted that the Director's decision to issue the Approvals was appropriate, and advanced the following arguments at the hearing:

1. The terms and conditions of the Approvals were appropriate having regard to:
  - a. provision of an adequate outlet;
  - b. water quality;
  - c. cumulative environmental impacts of water flow, quality, and levels;  
and
  - d. proposed monitoring program for the Project.

1. Provision of an Adequate Outlet

[154] The Town stated it sought a *Water Act* approval because the Project would alter the discharge of water and the wetlands. The Town noted that a pre-existing adequate outlet is not a pre-requisite for the Project. The Town argued it had achieved an adequate outlet by being granted the Approvals by the Director and the Project aligned with the working standard of an adequate outlet under legislated guidance. The Town submitted the robustness of the modeling and Project design show there is little impact to downstream water bodies, including peak flow and level; direction; volume; siltation or erosion; or aquatic environment which aligned with the working standard of an adequate outlet under legislative guidelines. The Town also submitted the Director had jurisdiction to apply and rely on the standards AEP set and published from time to time to interpret the appropriateness of an application for an approval under the Act. The Town also stated the framework of the legislation is evolving and adaptive as demonstrated by the issuance of the recent 2018 Fact Sheet.<sup>82</sup>

[155] The Town stated the adequate outlet for the Project was Pond D as it was beyond the point in the Project that post-development flow rates could significantly impact downstream

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<sup>82</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraphs 61, 118 and 119.

receiving bodies, including Lacombe Lake.<sup>83</sup> Mr. Brad Dardis, Senior Stormwater Engineer for Stantec, explained to the Board there was no overland drainage from Pond A or Pond C. He explained the Project provided for a pipe that drains from Pond A to Pond C. Pond C would drain to a constructed linear wetland to allow for natural overland drainage to Pond D which would connect the Project with the natural drainage system from Pond D to Lacombe Lake. Mr. Dardis stated the adequate outlet was at the point where the constructed linear wetland outlets into Pond D but also submitted the Town had completed additional analysis to show that Lacombe Lake was also an adequate outlet as it was not adversely impacted by the Project.

[156] The Town referred the Board to the 2018 Fact Sheet which is an updated bulletin guide to the 2006 SDGs and the 1999 SMGs and includes an elaborated definition of adequate outlet as follows:

“For a storm drainage discharge outlet to be considered an adequate outlet, the storm drainage system must NOT measurably\*:

- Alter the natural peak flow or level of the water body receiving the storm drainage, whether temporarily or permanently.
- Change or be capable of changing the location of the water or the direction of the flow of water in the water body receiving the storm drainage.
- Cause or be capable of causing the siltation or the erosion of any bed or shore of the receiving water body.
- Cause or be capable of causing an adverse effect on the aquatic environment.

\*Measurable changes, alterations or effects are those that can be measured using current technologies; and when compared to the pre-development flow conditions demonstrate that a change, alteration or effect has or has not occurred or is insignificant.”<sup>84</sup> [Emphasis added by the Town]

[157] The Town argued the statement in the 2018 Fact Sheet saying the “system must NOT measurably” did not mean zero impact but meant “no significant impact”. Thus, an outlet that demonstrated only negligible impact on downstream water bodies could be considered an adequate outlet for purposes of a *Water Act* approval. In addition, the Town stated the post-

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<sup>83</sup> Respondent Approval Holder’s Initial Appeal Submissions dated May 31, 2021, at paragraph 62.

<sup>84</sup> Respondent Approval Holder’s Initial Appeal Submissions dated May 31, 2021, at paragraph 65.

development flow rates for the Project to an adequate outlet must also not exceed the pre-development flow discharge rate set out in the MDP of 2.0 L/s/ha for a 1:100-year storm event.<sup>85</sup>

[158] At the hearing, Mr. Dardis explained to the Board the nature and purpose of the modeling undertaken by the Town's consultant, Stantec; how modeling indicated that discharge from the Project would not likely have an adverse effect on the environment; and that the Project met applicable legislation and AEP standards and policies regarding the determination of an adequate outlet. Stantec completed both single event and continuous modeling stormwater analysis for the Project which compared pre- and post-development discharge rates and level of Lacombe Lake. The more robust cumulative simulation analysis was required by the Director because Lacombe Lake users had historic flooding concerns. Mr. Dardis stated the single event analysis was used to consider more infrequent extreme events and to ensure critical infrastructure and property were not impacted for up to a 1:100-year storm event. He further explained the continuous simulation analysis analysed the day-to-day effect of the Project using 23 years of historical precipitation data and considered the effect of back-to-back rainstorms.

[159] The Town stated the single event analysis showed the post-development discharge rate from the Project for a 1:100-year storm event was modeled to be 1.45 L/s/ha which was well below the 2.00 L/s/ha standard set by the MDP and met the standard for determination of an adequate outlet. It was also explained by Mr. Dardis, single event modeling of the worst-case scenario of a 1:100-year storm event showed water levels in Lacombe Lake would likely increase by only 9 cm which, as stated by Mr. Dardis, was "an insignificant change and would not result in adverse impacts to the environment or adjacent landowners".<sup>86</sup>

[160] The Town also submitted that the continuous simulation modeling of the Project showed the probable change to Lacombe Lake level post-development was negligible. The Town submitted the most likely scenario, Scenario 6, showed there was a 1% possibility (or no more than 3.65 days a year) that Lacombe Lake levels would exceed pre-development levels by 5 cm

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<sup>85</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraphs 64, 66 and 67.

<sup>86</sup> Master Storm Water Management Plan dated May 18, 2018, Table 5.2 Single Event Downstream Hydraulic Characteristics.

and therefore negligible.<sup>87</sup> Appendix B provides a graph showing the modeled change in lake surface level over time under pre-development conditions and under Scenario 6 (the most likely post-development scenario).

[161] Mr. Dardis clarified for the Board the purpose of including the various scenarios used in the continuous simulation analysis and why Scenario 6 of the continuous simulation analysis was the most likely scenario. Scenario 6 showed the expected effect on Lacombe Lake as the result of building the Project as proposed. He stated Scenario 1 of the continuous simulation analysis represented the pre-development scenario which was used for comparison purposes and Scenarios 2 to 5 were included to show the incremental benefits of the various best management practices proposed as part of the Project. Mr. Dardis further explained to the Board the difference between Scenario 4 and Scenario 6 was that Scenario 6 reflected expected infiltration of stormwater at the manmade stormwater facilities, whereas Scenario 4 did not.

[162] Ms. Martine Francis, Project Manager, Stantec, added the purpose of including Scenario 7 in the continuous modeling analysis was to show infiltration may occur in other water bodies such as Pond A and C as well. She explained Stantec took a more conservative approach and relied on Scenario 6 as the most likely scenario as the Town wanted the modeling to reflect the Town's ability to control the development.

[163] The Town also provided the Board with an explanation of some of the assumptions used in the modeling. The Town stated modeling for a single year event was more conservative as it assumed no changes to the existing conveyance infrastructure at the outlet to Lacombe Lake or at Whelp Brook. If improvements were factored in, the Town submitted there would be a potential decrease in peak water level in a 1:100-year flood event by 3 cm. The Town's modeling also anticipated the infrastructure would be in working order because including variables for infrastructure degradation would overwhelm the process making the modeling of little use to the decision maker. The Town stated maintenance of the infrastructure would be coordinated by the Town and Lacombe County and could be addressed in the Lake Management Plan. Finally, the Town respectfully stated concerns regarding the height of the weir at the outlet to Lacombe Lake

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<sup>87</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraphs 73 and 74.

was beyond the scope of the Town's responsibility noting Ms. Alexander in her evidence had stated the weir has become more functional in 2019 and 2020.<sup>88</sup>

[164] The Town disputed Ms. Alexander's assertion the Hydrogeological Assessment required site-specific confirmation and it was not appropriate that the Director relied on a desktop hydrogeological study in issuing the Approvals. The Town argued the Hydrogeological Assessment was appropriate as it was undertaken based on the input of the Director and the advice of the Town's expert consultant and it was reliable and proportionate to the Project design and the advice of the Town's consultants. The Town argued the Hydrogeological Assessment being a desktop study did not invalidate the results of its assessment since it was informed by the professional judgment of the consultants involved, included the mapped geotechnical conditions of the study area and the vetted data available. The hydrogeological assessment was also based on 23 years of historic lake data in relation to storm events, groundwater infiltration, discharge and recharge, and evaporation. The Town also argued site specific confirmation would be premature as it was unknown at this stage what and when future development proposals would be forthcoming.<sup>89</sup>

[165] The Town argued its modeling showed only a negligible change in existing natural conditions because of the Project and the Director considered and accepted these findings in accordance with applicable legislation and AEP policy and standards. The Town argued that when the science and assessments were reviewed in context, anticipated actual change does not signify a significant change to Lacombe Lake as asserted by Ms. Alexander in her submissions to the Board.

[166] The Town noted it considered in its analysis that Lacombe Lake existed in a drainage system pre-development and that there were concerns that Whelp Brook could back up and cause flooding. It was asserted by the Town that the Appellants did not provide any cogent information as to the water level or discharge rate Lacombe Lake could tolerate as a receiving/discharging water body or potential contribution the Project would cause to flooding.

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<sup>88</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraphs 70 to 72. See also Master Storm Water Management Plan dated May 18, 2018, Table 5.2 Single Event Downstream Hydraulic Characteristics.

<sup>89</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraphs 68, 69 and 75.

The Town acknowledged Ms. Alexander and Ms. Davis also raised concerns as to the potential disruption to nesting birds but provided no evidence that the lake could not handle the post-development flow rates and lake levels calculated, even in the worst-case scenario, and noted it was accepted by the Director that the insignificant fluctuation would not disturb the shoreline.

[167] When considering the impacts on nesting birds, the Town argued Mr. Wagner relied on anecdotal observations of the current situation and did not address whether post-development-controlled discharge or post-development water quality will materially contribute to significant or irreparable harm to nesting birds. The Town provided evidence that anticipated post-development flow and water levels mimicked pre-development conditions and therefore the Town did not anticipate adverse effects on nesting birds.<sup>90</sup> The Town also noted in its closing argument that the Wagner report stated increases in lake levels of 10 cm or less would not affect nesting birds. The Town pointed out that the 1:100-year storm event analysis showed that lake levels would increase 9 cm.

[168] The Town also disputed Ms. Alexander's assertion that the Director relied on post-development monitoring to identify any potential environmental impacts. Rather, the Town submitted the Director, and the Town interpreted the data to show little impact to water flow or levels were expected and that this logic should be extended to vegetation, waterfowl, and other shoreline resident species. The Town further submitted the monitoring required, and the development of a Lacombe Lake Management Plan, should ensure the Project's design and impacts were as expected as the residential developments were built.

[169] The Town also submitted if Pond D was not an adequate outlet, it was not fatal to obtaining *Water Act* approval, as the Director and the Board have the power to balance competing interests and issue an approval without an adequate outlet. The Town argued the conditions of the

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<sup>90</sup> See Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraph 79 where the Town stated:

"As represented... in Stantec's report, *Rebuttal to the Appellant's Report Wagner 2021* shows water levels and flow anticipated post-development largely mimic pre-development levels, and any increase to Lake level would be relatively minor and brief in duration. Therefore, any adverse impact on nesting birds (e.g., abandonment, increased mortality risks etc.) are not anticipated to be demonstrably different than pre-development conditions and are not likely to result in long-term populations impacts. (Stantec Rebuttal 2021, Page 2)"

Approvals through quantity controls relating to discharge rate and water level, water quality, wetland assessments and monitoring mitigated potential adverse impact, supplanted the need for a pre-existing adequate outlet and provided a means under the Act to proceed with the NW Stormwater Management System.<sup>91</sup>

## 2. Impact on Water Quality

[170] The Town submitted the modeling engaged by Stantec met or exceeded AEP guidance. The Town disputed Ms. Alexander's assertion that the NW Stormwater Management System was a "municipal water supply, recreational area, or particularly sensitive biological resource [that was] likely to be affected" and as such the 1999 SMGs "required a detailed water quality analysis".<sup>92</sup>

[171] The Town argued it was unlikely the receiving water bodies (Lacombe Lake and beyond) would be adversely affected and the NW Stormwater Management System fell within the second category of stormwater discharge systems described in section 5.3 of the 1999 SMGs:

"...which do not, when assess[ed] by themselves, represent a significant receiving stream impact but whose cumulative effects may be of concern. The scale of most land development projects in Alberta [is] too small to cause substantial water quality impacts by themselves or to justify the cost of extensive water quality studies."

[172] The Town submitted the Project would likely result in an overall increase in the quality of water before it exits the NW Stormwater Management System and would not adversely affect Lacombe Lake as suggested by Ms. Alexander.

[173] Ms. Francis explained the stormwater from northwest Blackfalds would go through a "treatment train" of constructed wetlands that provided for removal of larger sediments containing potential contaminants in a sediment forebay and extended storage and residence time to promote the enhanced treatment of water through aquatic vegetation and biological processes. Ms. Francis explained the stormwater would then enter existing wetlands and the linear constructed wetlands, where further enhancements to water quality were achieved before controlled discharge into Lacombe Lake/Whelp Creek and into the Battle River Basin.

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<sup>91</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraph 120.

<sup>92</sup> Initial Written Submissions of Anita Alexander, Appellant dated May 17, 2021, at paragraphs 83 to 85.

[174] The Town further submitted it had committed to the Water Quality Monitoring Program that included monitoring and reporting at agreed upon locations for a minimum of five years at Ponds A and C and downstream receiving waterbodies such as Lacombe Lake. Sampling will be compared to pre-construction baseline sampling in accordance with Approval 1.<sup>93</sup>

[175] In response to Ms. Alexander's submissions regarding the use of a single nutrient, phosphorous, for modeling water quality, the Town disputed Ms. Alexander's assertion the Director relied on unsupported assumptions. The Town referred to provisions of Section 5.3 of the 1999 SMGs:

“Rigorous analysis of the quality of urban runoff required the collection assessment of a great deal of data. It is usually feasible to conduct such a thorough analysis for only those situations where stormwater runoff has been recognized as having the potential to cause receiving water impairment in critical areas. Simple and approximate alternatives have been developed to address most common stormwater runoff situations, recognizing that the result will be subject to some degree of uncertainty.”

Mr. David Morgan, Principal, Environmental Services, Stantec, explained to the Board phosphorous was a well-accepted indicator of waterbody health and was the driving nutrient associated with eutrophication.

[176] The Town explained to the Board that phosphorus was the appropriate nutrient to study and was appropriate for modeling the Project as supported by the 1999 SMG and leading literature. Mr. Morgan stated regulators in Alberta did not want to see changes in phosphorus loading that resulted in changes in the eutrophication of Lacombe Lake and that is why phosphorus concentrations were used for modeling water quality.

[177] The Town submitted other nutrients and contaminants were not ignored in the Water Quality Assessment as asserted by Ms. Alexander because they are treated similarly by the same biological process as the stormwater progresses through the NW Stormwater Management System. Further, overall removal rate of these nutrients and contaminants was expected to be equivalent or greater than the 80% removal rate expected for phosphorus.

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<sup>93</sup> See Director's Record, Tab 346, which is incorporated into Approval 1 as Report No. 00387959-R003.



[178] Mr. Morgan further stated modeling showed the concentration of phosphorus entering Lacombe Lake after treatment in the NW Stormwater Management System was lower than average pre-development phosphorus concentrations entering the lake. Post-development concentrations of phosphorus in Lacombe Lake were reduced from 0.021 mg/L pre-development to 0.019 mg/L post-development even though the total load increased (Table 11 from Appendix C of the MSMP, reproduced below, shows these data in bold). The Town further submitted it was well recognized that with respect to hydrocarbons, volatilization and biological processes are very effective in removing hydrocarbon by-products.<sup>94</sup>

Table 11 Water Quality Pre and Post Development: Total Phosphorus

Component	Load (kg/yr)	Flow to Lake (m <sup>3</sup> x10 <sup>3</sup> )	Water Quality (mg/L)	Comment
<b>Pre-Development Totals</b>				
Pre-dev. Lacombe Lake Watershed	38	445	0.086	Natural WQ inflow to Lake
Lacombe Lake (includes Evaporation & Settling)	<b>5</b>	222	<b>0.021</b>	TP in Monitored in Lake = 0.021 mg/L
Downstream of Whelp Brook	20	572	0.035	Add in Whelp Brook
<b>Post Development Totals</b>				
Post-dev. Lacombe Lake + NW Area	81	1049	0.078	Natural WQ inflow to Lake
Lacombe Lake (includes Evaporation & Settling)	<b>10</b>	524	<b>0.019</b>	After Settling
Downstream of Whelp Brook	25	1176	0.021	Add in Whelp Brook
<b>Pond Removal =</b>	50%			
<b>Lacombe Lake Removal =</b>	88%			

[179] The Town noted Ms. Alexander raised concerns about flow rates used in the Water Quality Assessment modeling. Mr. Morgan explained the water quality modeling was designed to test the robustness of the system if a larger than expected volume of water went through the system. The Town stated the flow rates used in the water quality modeling should not be referenced for purposes of evaluating changes in water quantity and potential impact to Lacombe Lake, as the water quality modeling flow rates were conservative as they overestimated the expected quantity of runoff and assumed zero infiltration of runoff in Ponds A, C and D.

<sup>94</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraph 99.

### 3. Cumulative Environmental Impacts of the Project

[180] Based on the Key Assessments, the Town submitted the cumulative environmental impacts of the Project would be plausibly negligible because changes in waterflow through the lake would be plausibly negligible when taking attenuation for the Project into account. The Town submitted that using the single event analysis for the 1:100-year storm event, the increase in flow velocity would be estimated to be 0.007 m/s which was negligible.<sup>95</sup> As well, the Approvals had conditions to keep discharge rates to the measured pre-development levels set out in the MDP to mitigate downstream impact.

[181] As discussed earlier, the Town submitted that based on the Key Assessments the cumulative environmental impact of changes in water quality were modeled and showed a likely improvement after the stormwater is treated in the NW Stormwater Management System. As well, the Town noted monitoring and testing of water quality was required under Approval 1.

[182] The Town referred to its earlier submissions regarding modeled changes in the water level of Lacombe Lake and submitted increases in water levels were anticipated to be negligible.

[183] The Town argued modeling showed the impacts of water flow and water levels on shoreline erosion would be negligible. Pre- versus post-development increase in Lacombe Lake outflows of 35% under Scenario 6, the most likely scenario, would not cause erosion or impact biodiversity. The Town noted that a 35% increase was the worst-case scenario under wettest conditions and that increases were not expected to be long in duration or frequency.

[184] The Town submitted the Appellant's own witness, Mr. Wagner in his report found, under Scenario 6, the most plausible scenario, nesting birds would not likely be impacted by increased water levels. In Scenario 4, the most conservative scenario, which the Town submitted did not plausibly reflect true conditions, Mr. Wagner's report was speculative and did not specify what harm to nesting birds would occur.

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<sup>95</sup> Respondent Approval Holder's Initial Appeal Submissions dated May 31, 2021, at paragraph 101(i).

#### 4. Project Monitoring

[185] The Town submitted the Approvals, particularly Approval 1, provided numerous terms and conditions to address environmental impacts of quality and flow as well as placing other continuing responsibilities on the Town for oversight of the Project. Condition 5 of Approval 1 provided for monitoring for a minimum of five years, the collection of at least one year of background data, and reserved the right for the Director to increase monitoring. As well, Condition 5.4 and 5.5 required the Town to develop, in conjunction with other stakeholders, a Lake Management Plan for Lacombe Lake.

[186] The Town submitted, in addition to monitoring, the Approvals required the Town to provide the Director annual summary reports to serve as an indicator of performance of the Project and identify any issues or impacts being realized in the system or Lacombe Lake. The Town noted there exist broad powers under EPEA and the Act for enforcement and remedial measures with respect to adverse impacts being realized on the aquatic environment, human health, or public safety.

[187] Ms. Meghan Chisholm, Environmental Planner, Stantec, described to the Board the purpose of the Water Quality Monitoring Program under the MSMP is to ensure water leaving the Project meets provincial and federal guidelines and the stormwater management system is functioning as designed. Ms. Chisholm indicated there were four proposed sampling locations, one being at the downstream discharge point of the NW Stormwater Management System. The Town submitted the sample taken at the outfall to the linear wetlands was necessary as it represented the water quality of the existing development nodes and was upstream of Lacombe Lake. Ms. Chisholm also noted, although it was proposed that samples would be taken from Lacombe Lake, as there was a large contributing basin to Lacombe Lake in addition to the proposed development, a direct comparison between the quality of water leaving the Project and the water in Lacombe Lake was not possible. Ms. Chisholm indicated samples from Lacombe Lake would be used to document water quality in the lake at the time of sampling.

**D. Director**

[188] The Director submitted his decision to issue the Approvals and the terms and conditions included in the Approvals was appropriate and the Board should recommend to the Minister the Approvals should stand as issued and the appeals be dismissed.

[189] At the hearing, the Board heard that the Director considered the relevant matters and factors in the *Approved Water Management Plan for the Battle River Basin* as required by section 39(2)(a) of the Act, and concluded that there were:

- No significant impacts to the:
  - Riparian Environment
  - Aquatic Environment
- No adverse impacts to:
  - Hydrology, hydrogeology, or hydraulic characteristics
  - Public health and safety
  - Assimilative capacity
- No significant impact to the connectivity of surface and shallow ground water regime<sup>96</sup>

[190] At the hearing Mr. Gordon Ludtke, Senior Water Administration Engineer, Approval Coordinator, Lead Reviewer and Mr. Todd Aasen, Designated Director, provided the Board an overview of the AEP authorization and review process and authority, a description of the authorized activities and the Director's review and decision process for the applications.

[191] At the hearing, the Director presented evidence and arguments on:

1. The decision of the Director to issue the Approvals was appropriate having regard to the identification of an adequate outlet;
2. The decision of the Director to issue the Approvals was appropriate having regard to water quality, water quantity and flow rates and impact on the environment.

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<sup>96</sup> Director's Direct Evidence – Alberta Environment and Parks – June 21, 2021, being Exhibit #2, at page 65 – discussing the Approved Water Management Plan for the Battle River Basin.

3. The Appellants have not met the onus of demonstrating the Director's decision to issue the Approval was inappropriate.
4. The terms and conditions of the Approvals are appropriate.
5. The Appellants have not met the onus of determining the terms and conditions of the Approval were inadequate.

1. Identification of an Adequate Outlet

[192] The Director disputed Ms. Alexander's allegations the Director erred in issuing the Approvals because an adequate outlet was not identified, and the Town cannot comply with condition 3.3 of Approval. The Director argued Ms. Alexander's submission focused on a definition of adequate outlet that was unreasonably narrow as it would effectively prevent the approval of any stormwater management system if water flow or level alterations could be 'measured' even if the changes are insignificant. The Director argued Ms. Alexander relied on a strict reading of the definition to argue water level changes of 3 to 23 cm are "measurable".

[193] The Director submitted a more reasonable interpretation of 'adequate outlet' that is supported by the 2006 SGD, is that an adequate outlet is an outlet that performs within its design capacity during the peak 1:100-year storm event and will not adversely affect the environment. The Director noted the 2006 SGD is a guidance document and is not determinative of whether a stormwater system will have an adverse impact on the environment. It also does not require every storm drainage project to have an adequate outlet but does require a *Water Act* approval where an adequate outlet does not exist prior to construction and where wetlands will be impacted.<sup>97</sup>

[194] The Director further submitted this interpretation accords with AEP's more recent 2018 Fact Sheet which updated the definition of 'measurable' as it pertains to an adequate outlet as follows:

"Measurable changes, alterations, or effects are those that can be measured using current technologies; and when compared to the predevelopment storm flow conditions demonstrate that a change alteration, or effect has or has not occurred or is insignificant." [Emphasis added by the Director]

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<sup>97</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 142 – 145.

The Director noted the 2006 SGDs, and the 2018 Fact Sheet are non-binding policy documents that should not be applied with the strictness proposed by Ms. Alexander.<sup>98</sup>

[195] The Director explained in his closing arguments the definition of “adequate outlet” in Approval 1 is overly restrictive. He acknowledged including such a restrictive definition caused confusion which could be corrected by amending the Approval to include the more comprehensive definition contained in the 2006 SGDs and the 2018 Fact Sheet. However, it was not a basis for reversing the approval decision.<sup>99</sup>

[196] The Director further submitted Lacombe Lake was an adequate outlet for the NW Stormwater Management System as the increased stormwater flows would not adversely impact the lake or aquatic environment. The Director noted the MSMP detailed the effects the NW Stormwater Management System would have on Lacombe Lake and argued that based on the modeling these effects would not be significant.

[197] The Director submitted the purpose of condition 3.3 of the Approval was not to require an adequate outlet as Ms. Alexander contended, rather it sets out the Town’s responsibilities for obtaining a right of access for stormwater outfalls and discharge routes. The Director submitted although he considered the lake an adequate outlet, Approval 1 does not import a requirement for an adequate outlet through the condition or otherwise.<sup>100</sup> The Director explained to the Board the purpose of the adequate outlet requirement in Approval 1 was to get consent from the County with respect to the flow route to the lake.

## 2. Water Quality, Water Quantity and Flow Rates and Impact on the Environment

[198] The Director submitted the decision to issue the Approvals was appropriate having regard to water quality, quantity, and flow rates. At the hearing, Mr. Ludtke provided a summary

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<sup>98</sup> Director’s Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 147 to 149.

<sup>99</sup> The 2006 SGD states at page 6: “In general terms an outlet is expected to be adequate when: the *impact* of the post-development flow cannot be detected; or the outlet performs within its design capacity during the peak 1/100 storm event and will not create an adverse effect on the environment.”

<sup>100</sup> Director’s Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 150 to 153.

of the steps taken by AEP when it received the applications for the Approvals and the information, documentation, and guidelines he considered in making his recommendations to the Director. The Director explained to the Board the independent review process he undertook in making his decision to issue the Approvals.

[199] Mr. Ludtke described the steps taken by AEP upon receipt of the applications for the Approvals was as follows:

1. the application was reviewed for administrative and informational adequacy and completeness;
2. the application was referred to subject matter experts;
3. public notice was issued;
4. a detailed review of application was completed;
5. potential SOCs were assessed;
6. SIRs were issued, if necessary; and
7. a merit rationale was completed, and a recommendation was provided to the Director.

[200] The Director stated in considering the applications and deciding to issue the Approvals, he considered and applied the relevant legislation and applicable AEP directives, guidance, and policy documents in place at the time.<sup>101</sup> Mr. Ludtke stated AEP guidelines are to “be viewed as a tool to assist in making decisions and not as a rulebook for stormwater management solutions”.

[201] The Director explained, with respect to water quantity issues, AEP guidelines recommend a stormwater system should be designed so post-development flow rates do not exceed the pre-development flow rates for a 1:100-year storm event and downstream impacts of increases in flow quantities must be considered if post-development flow quantities cannot be easily maintained to pre-development quantities.

[202] Mr. Ludtke stated with respect to water quality, the Alberta Municipal Policies and Procedures Manual (2001) generally requires stormwater management techniques to remove

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<sup>101</sup> See also Director’s Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 68 where the Director indicated that he considered and applied the *Water Act*, the MDP, the 2013 SMGs, 2006 SGDs, the 1999 SMGs, the Municipal Polies and Procedures Manual (2001) and the Alberta Wetland Policy (2013).

a minimum of 85% of sediments of particle size of 75 microns. Mr. Ludtke explained other nutrients and metals adhere to the sediments and are removed with the removal of larger sediments. He also noted additional water quality improvement measures may be required depending on the receiving waterbody.

[203] At the hearing, Mr. Ludtke described the modeling, information and documentation and the subject matter specialist technical reviews he considered. Mr. Ludtke noted the AEP Hydrogeologist and AEP Limnologist, had requested additional information and analysis but, in his professional judgment, Mr. Ludtke found it not necessary. With respect to the AEP Hydrogeologist's request, the Stantec desktop hydrological model was based on the worst-case scenario assuming no infiltrations in the ponds or wetlands. As reiterated in the Director's closing arguments, Mr. Ludtke believed additional analysis was unnecessary as it was unlikely to change the Director's assessment because it would likely show infiltration in the ponds and wetlands which would only reaffirm Stantec's conclusions and did not provide any additional information necessary for the review process. Mr. Ludtke also accepted Mr. Riddell's recommendation that additional hydrogeological information and geotechnical information would be available as the individual stormwater systems were developed. With respect to the Hydrogeologist's requests, Mr. Ludtke noted the Town addressed these issues in SIR #1.

[204] The Director noted that in considering the applications for the Approvals, he applied relevant legislation and applicable AEP directives, guidance, and policy documents.<sup>102</sup> The Director described to the Board the information he considered in his independent review and how issues raised during the review process were addressed. He stated that he reviewed:

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<sup>102</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 68 where the Director stated the legislation and AEP directives, guidance and policy considered included but was not limited to:

- “(1) the *Water Act*...;
- (2) the *Approved Water Management Plan for the Battle River Basin* (2014);
- (3) the *Standards and Guidelines for Municipal Waterworks Wastewater and Storm Drainage Systems* (2013)...;
- (4) the *Stormwater Guidance Document, the Water Act and EPEA* (2006)...;
- (5) the *Stormwater Management Guidelines for the Province of Alberta* (1999)...;
- (6) the *Municipal Policies and Procedures Manual* (2001)...;
- (7) the *Alberta Wetland Policy* (2013).



1. the Town's applications for Approval;
2. valid SOCs and the Town's responses to those concerns;
3. SIRs and responses from the Town;
4. internal AEP subject matter expert referral comments;
5. recommendations from AEP Approvals Coordinator/Senior Water Administration Engineer, Mr. Ludtke; and
6. applicable legislation policies and guidelines.<sup>103</sup>

[205] The Director reviewed for the Board his authority under section 38 of the Act stating he had discretion in issuing the Approvals and noted he had to make "meaningful referrals" to subject matter experts in AEP that "address concerns on water management and potential impacts to the aquatic environment". The Director stated he must consider the recommendations of the subject matter experts within the context of the regulatory scheme. He also stated he must not blindly follow policies and guidelines but must consider them in context of the approval applied for.

[206] The Director explained the Town clearly demonstrated the NW Stormwater Management System would have no significant adverse effect to the aquatic environment or other water users and would have no significant change to hydraulic, hydrological, or hydrogeological effects downstream of the proposed activity.<sup>104</sup>

### *Approval 1*

[207] The Director stated to the Board it was appropriate to issue Approval 1 for the following reasons:

1. proposed works complied with Alberta Standards and Guidelines;

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<sup>103</sup> See also Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 69.

<sup>104</sup> See also Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 70 where the Director stated "his decision statement confirms...the activities authorized by the Approvals:

- meet the *Stormwater Management Guidelines for the Province of Alberta*, including using conveyance and end-of-pipe Best Management Practices...;
- control storm water runoff and water quality through the use of hybrid stormwater management facilities a linear wetland, and natural wetlands prior to discharging into a tributary water course to Lacombe Lake,
- satisfy the Matters and Factors of the *Approved Water Management Plan for the Battle River Basin*,
- meet the requirements of the Alberta Wetland Policy and associated directives, and
- will not have a significant impact on the environment or other water users.

2. best management practices were proposed to minimize quantity and quality concerns;
3. the Town quantified the residual impacts to the receiving water bodies; and
4. a monitoring plan was proposed to confirm the water quality modelling assumptions.

[208] In making his decision, the Director stated he reasonably relied on Mr. Ludtke's recommendation that Approval 1 be issued (subject to the conditions listed in the Approval) based on his assessment of the application, and supporting documents, as revised and supplemented in response to the Supplemental Information Requests. The Director also submitted that Mr. Ludtke determined the MSMP for the proposed NW Stormwater Management System exceeded the 1999 SMGs. The Director also stated the additional measures taken by the Town to minimize potential impact by their works and to monitor these potential water quality impacts exceeded the typical requirement of master drainage plans for stormwater management systems.<sup>105</sup>

[209] The Director submitted that the two primary aspects of AEP's stormwater management policies and guidelines are stormwater quality and quantity control.

#### Water Quality

[210] The Director stated he was satisfied the NW Stormwater Management System would not have an adverse effect on water quality. The Director argued he reasonably relied on the Water Quality Assessment prepared by Stantec which based its analysis on total phosphorus and concluded it was unlikely the NW Stormwater Management System would result in a measurable change in cumulative load or water quality for total phosphorus in Lacombe Lake.<sup>106</sup>

[211] The Director submitted he considered the impact of total phosphorous loading on the aquatic environment and Lacombe Lake. The Director noted the Water Quality Assessment modeling showed the amount of phosphorus entering Lacombe Lake would double because of the Project but found the post-treatment modeled concentration of phosphorus of 0.07 mg/L acceptable as the concentration was similar to that of rainwater, less than that found in agricultural or non-urban runoff, and unlikely to adversely affect the water quality or the aquatic environment of

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<sup>105</sup> See Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 72 and 73.

<sup>106</sup> See Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 74 to 83.

Lacombe Lake. The NW Stormwater Management System also included methods to mitigate and monitor the potential impact of phosphorous.

[212] The Director submitted he also considered how the design of the NW Stormwater Management System removed sediments and other contaminants. The Director stated that the proposed hybrid stormwater management facilities were designed to promote sediment removal and the NW Stormwater Management System met or exceeded the 2006 SGD minimum performance criteria of removing 85% of sediments 75 microns or greater.<sup>107</sup> The Director also noted the hybrid-type ponds proposed by the Town were analogous to extended detention wet ponds and in the 1999 and 2013 SMGs extended wet ponds were said to have a higher than average removal efficiency than typical wet ponds.<sup>108</sup>

[213] The Director submitted his reliance on the Water Quality Assessment's analysis of phosphorous in assessing overall water quality is reasonable and it was also reasonable to conclude ponds and wetlands in a series would ensure relatively high rates of removal of other parameters such as nitrogen and metals. Emphasis was placed on phosphorus as a key parameter in judging water quality because phosphorus is the limiting nutrient in most freshwater systems, and it accelerates eutrophication when present in higher concentrations.<sup>109</sup> As well, the Director noted as there was sufficient information about runoff concentrations, removal rates, and atmospheric deposition for phosphorus and less information about other nutrients and metals, he reasonably accepted phosphorus as the appropriate parameter for a mass balance analysis. The Director also concluded, although percentage of overall removal rates for each parameter varied, it was possible

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<sup>107</sup> See Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 89 and 90 which states that the "2006 Stormwater Guidance Document provides that the removal of 85% of sediments and 75 microns or greater is sufficient" and that the "hybrid stormwater management ponds were shown to exceed the minimum performance criteria for the removal of Total Suspended Solids (85% removal of 75-um particles) set out in the Municipal PPM".

<sup>108</sup> See Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 88 to 91 and at paragraph 92 where the Director stated, "As outlined in the 1999 SMGs, extended detention wet ponds have an average removal efficiency of 65% for total phosphorus and 55% for total nitrogen, while wet ponds have average removal efficiencies of 45% and 35% for same".

<sup>109</sup> See Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 94 where the Director noted the Battle River Management Plan indicated "[b]ased on available water quality data, total phosphorus is likely the main parameter forming the basis for degraded water quality in the Battle River."

to infer removal efficiencies for other contaminants based on the removal efficiency of total phosphorus. The Director stated that according to:

“...Table 6-4 of the 1999 SMGs and Table 5.5 of the 2013 Stormwater Management Guidelines, the use of certain best management practices, such as wet ponds, infiltration basins, show a corresponding reduction in a number of potential contaminants, including total phosphorus, total suspended solids, total nitrogen lead and zinc.”<sup>110</sup>

[214] Finally, the Director submitted additional measures were included in the NW Stormwater Management System to address potential impact to water quality as follows:

1. design features monitor and minimize potential for aquatic invasive species to enter the downstream environment;
2. use of “Source Control” best management practices, Low Impact Development strategies in accordance with the 1999 SMGs and Oil and Grit Separators in accordance the 2013 SMGs;
3. stabilization and use of natural wetlands for water quality improvements in accordance with 1999 SMGs;
4. development of an Environment Stewardship Plan to minimize the Town’s total impact to the environmental; and
5. development of a water quality monitoring program.

#### Water Quantity and Flow Rates

[215] The Director stated the Hydrological Assessment showed there was no significant change from pre- to post-development in subsurface flow and groundwater discharge to Lacombe Lake.

[216] The Director submitted each of the scenarios used in the water balance modeling showed acceptable increases in the water level of Lacombe Lake, particularly for small and more common storm events. He submitted single event analysis of the 1:2 to 1:25-year storm events showed increases in the maximum water level form 0.00 metres to 0.04 metres, respectively. The Director noted Scenario 4, a worst-case scenario, did not provide for any infiltration in storm ponds and with moderate infiltration in the general northwest area, Lacombe Lake maximum levels would increase by a maximum of 0.231 metres above pre-development conditions and 0.09 metres

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<sup>110</sup> Director’s Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 93 to 99.

for a 1:100 year storm event. The Director further noted when infiltration was added into the modeling in Scenarios 5 and 6, the continuous simulation model showed a maximum lake level rise of 0.013 to 0.114 metres. The Director argued the maximum levels pertain to more extreme events and wetter conditions that would not occur on a regular or ongoing basis and smaller lake level increases are expected for regular climatic conditions.<sup>111</sup>

[217] The Director submitted the Town met the MDP's pre-development discharge rate of 2.0 L/s/ha as the post-development discharge rate into Lacombe Lake in a 1:100-year storm event was modeled to be 1.45 L/s/ha. The Director submitted routing this water through Lacombe Lake slowed down the rate of flow at its outlet to Whelp Brook to 0.477 L/s/ha as the lake acts as a large detention pond. The Director also noted additional measures were included in the MSMP to address impacts to quantity and flow rates such as hybrid stormwater management ponds and natural ponds that facilitate infiltration, use of "source" control best management practices and Low Impact Development strategies.<sup>112</sup>

### *Approval 2*

[218] The Director noted the Appellants did not make specific submissions relating to potential adverse impacts from the activities authorized by Approval 2. Based on the Director's review of the application for Approval 2, the Director submitted the activities authorized by Approval 2 would not have a significant adverse effect on the aquatic environment or other water users as the Town's Wetland Assessment and Impact Report meets AEP policy requirements. The Director stated at the hearing the Town provided a surface outlet for the NW Blackfalds development area, complied with Alberta Wetland Policy and associated directives, demonstrated avoidance and minimization of impacts to wetlands, and paid compensation for the 0.18 ha of infilled wetlands.

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<sup>111</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 103 to 106.

<sup>112</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 109 to 112.

3. The Appellants did not Meet the Onus of Demonstrating the Director's Decision to Issue the Approvals was Inappropriate

[219] The Director submitted the Appellants did not meet the onus of proof to demonstrate the Director's decision to issue the Approvals was inappropriate. The Director argued the Appellants did not provide new evidence, site-specific assessments, or expert opinion that the Approval activities would adversely affect the environment but relied on the Appellants' own assessment of reports and documents reviewed and considered by the Director and speculated additional studies might reveal potential impacts.

[220] In his closing arguments, the Director argued the basis of the appeals was the Appellants alleged the Director did not properly exercise his discretion in issuing the Approvals because he did not require sufficient studies or baseline data, erred in not following every internal recommendation, and failed to correctly assess the risk. The Director submitted he did properly exercise his discretion and it is not his role to demonstrate the Project has zero impact. The Act contemplates that activities may impact water and the aquatic environment, and the Director may consider the effects on the aquatic environment, hydraulic, hydrological or hydrogeological effects of an activity in issuing an approval.<sup>113</sup> The Director submitted it is not an absolute requirement, but in considering these effects of the Project, the Director properly exercised his discretion.

[221] The Director further explained it is not the Director's role to require applicants to conduct every possible study and assessment related to every potential risk as argued by the Appellants. The Director's role is to assess each Project on its own merits by applying applicable legislation policy and guidelines, assessing adequacy of information and request supplemental information if necessary. The Director's role also required applying discretion in applying internal referral recommendations and making an informed decision. The Director argued in this case, the record showed the Director considered each subject matter expert's recommendation within the broader context of the regulatory scheme and the purposes of the Act and many were incorporated into the SIRs and the Town's responses.

[222] The Director submitted to the Board that in the limited circumstances where Mr. Ludtke did not accept a recommendation, he properly exercised his discretion to do so as the

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<sup>113</sup> See section 38(2) of the *Water Act*, R.S.A. 2000, c. W-3.

Town had already met or exceeded the 1999 SMGs and had demonstrated, even in the worst-case scenario, insignificant impacts. The Director explained that he had incorporated the Water Quality Specialist's questions into the SIR, and it was only after her second review he determined further information was unwarranted, and her concerns could be addressed as part of the Lake Management Plan. With respect to the Regional Hydrologist's recommendation to further assess infiltration rates, the Director accepted Stantec's Hydrogeologist's recommendation that applicable studies would occur once site level work would be carried out and it would not make sense to do so at the broader level of a MSMP. The Director stated he reasonably concluded additional studies were unnecessary and unlikely to change his assessment. The Director argued the reasonable exercise of his discretion, after properly considering the recommendations does not constitute an error as alleged by the Appellants.

[223] The Director also explained it is the applicant's role to establish the need for a project, design a project to meet the need and request a *Water Act* approval to allow the applicant to build the project. If the project is reasonable and meets the considerations under the Act, the Director may issue the approval. In the current circumstances, the Director in his closing comments submitted he had reviewed the applications and supporting technical reports and modeling; referral comments and recommendations; applicable legislation and policies, standards, and guidelines; and the SOCs and the Town's responses. The Director submitted that the Project met or exceeded the legislative requirements and AEP's policies or standards and the Appellants did not provide evidence that the modeling was incorrect or that the Project would have an adverse effect on the aquatic environment or water users. The Director noted that he and the Town put in considerable effort to address the concerns raised by the Appellants. Mr. Ludtke took the extra step of incorporating the concerns of the SOCs into the SIRs to ensure they were addressed. The Director submitted he considered the effect on aquatic environment, downstream users and landowners and based on his review considered the MSMP reasonable and appropriate within the context of the Act and the Director properly exercised his discretion when he issued the approvals.

#### 4. Terms and Conditions of the Approvals are Appropriate

[224] The Director submitted the terms and conditions of the Approvals adequately protect the aquatic environment and Lacombe Lake. He also submitted the Project plans, technical

reports, SIR information and design standards limit how the activities are conducted under the Approvals and have been verified and assessed by AEP staff and approved by the Director.

*Approval 1*

[225] Approval 1 is for the construction operation and maintenance of the NW Stormwater Management System. The Director submitted the NW Stormwater Management System design exceeded the applicable 2013 Standards and Guidelines and the 1999 SMGs; required that the Project must be constructed and operated in accordance with the MSMP which forms part of the Approval; and the terms and conditions imposed an obligation on the Town to actively take steps to protect the aquatic environment, Lacombe Lake, and other users from potential adverse impacts of Approval 1 activities.<sup>114</sup>

[226] The Director stated at the hearing the Town designed a system that mitigated potential environmental impact of proposed activities and provided enough information for the Director to determine terms and conditions to ensure environmental impacts are minimized. The Director submitted the MSMP included extensive mitigation efforts, including special storm design, the use of wetlands, the use of best management practices, a monitoring program, and the development of a Lake Management Plan, to reduce potential adverse impacts to Lacombe Lake.

[227] The Director described to the Board the terms and conditions contained in Approval 1 are designed to protect the aquatic environment. The Director noted at the hearing and in his written submissions, Approval 1 contained conditions designed to mitigate environmental impacts including ongoing water quality monitoring (sections 5 and 6), requirements for the hybrid storm pond (section 3.1), and storm pond outlet controls (condition 3.4).<sup>115</sup>

[228] The Director noted condition 5.1 of Approval 1 required the Town to undertake stormwater monitoring by taking 24 samples per year from Pond C, Pond A and Lacombe Lake to be analyzed for several parameters, including phosphorus, for a minimum of one consecutive five-year period in accordance with the Water Quality Monitoring Program. The Director submitted this program exceeded the 1999 SMGs recommendations which stated monitoring the

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<sup>114</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 176 and 186.

<sup>115</sup> Director's Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 178 to 181.



effectiveness of a stormwater management system in removing various pollutants should occur “during the first two years after installation”.<sup>116</sup>

*Approval 2*

[229] Approval 2 authorized the modification of two wetlands, the infilling of one wetland and the construction, operation and maintenance of the linear wetlands and storm trunk. The Director described at the hearing that the terms and conditions of Approval 2 imposed an obligation on the Town to actively take steps to protect the aquatic environment from potential adverse impacts of the activities authorized by Approval 2. At the hearing and in his written submissions, the Director described several conditions included in Approval 2 including obligations on the Town with respect to monitoring for and repairing erosion and preparation of a Siltation and Erosion Control plan (conditions 3.5, 4.0 to 4.1), payment of compensation for the infilled wetlands (condition 3.10), minimum normal water elevation for Ponds A and C (condition 3.11 and 3.12), and investigation of complaints relating to surface water or groundwater interference, including reporting, remediation and mitigation measures (conditions 5.0 to 5.2).<sup>117</sup>

5. The Appellants have not Demonstrated the Terms and Conditions of the Approvals are Inadequate

[230] The Director submitted the Appellants have not provided any evidence the Approval activities pose a risk to the aquatic environment or other water users and have not demonstrated the conditions of the Approvals are insufficient to address any of the impacts they alleged.

[231] The Director disputed the Appellants’ submissions regarding adequacy of the terms and conditions related to sampling locations for water quality and water quality monitoring. The Director submitted that the Appellants did not provide any evidence that more stringent water quality monitoring is necessary or any reasonable suggestions of how the conditions of the Approvals could be amended to be more protective. The Director noted the Town is required to sample downstream of Pond C which is the last point at which the Town would have care and

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<sup>116</sup> Director’s Written Submission Alberta Environment and Parks, May 31, 2021, at paragraph 183.

<sup>117</sup> Director’s Written Submission Alberta Environment and Parks, May 31, 2021, at paragraphs 188 and 189.

control over the inputs into the NW Stormwater Management System and could implement any mitigation measure within the boundary of the Approvals. From that point the runoff flows through the linear wetland to Pond D which is under the authority of Lacombe County. The Director also noted that it would be unreasonable for the Town to be required to monitor lands outside of the Approval area for impacts over which it has no control. Finally, the Director submitted that although it was suggested that monitoring should continue into perpetuity, AEP had no ability to require monitoring in perpetuity as section 38(6) of the Act required approvals to include an expiry date.

[232] The Director also noted conditions 5.0, 5.1 and 5.2 of Approval 1 required the Town to monitor water quality for key parameters found in stormwater for at least five consecutive years with multiple annual sampling locations. If water quality deteriorates, the Director stated conditions 6.1, 6.5, 7.0, 7.1 and 7.2 of Approval 1 required the Town to undertake remedial measures and investigate written complaints. As well, Approval 1 required the development of a Lake Management Plan for Lacombe Lake in conjunction with other stakeholders to provide for monitoring or water quality and other issues.

## VI. **BOARD'S ANALYSIS**

[233] Under section 99(1) of EPEA, the Board must provide the Minister with its report and recommendations regarding the issues in these appeals.

[234] The Board considered the oral evidence, arguments, and written submissions provided by the Parties, the Director's Record, and the relevant legislation in making its recommendations to the Minister.

[235] The Board appreciates the participation of the Intervenors at the hearing. The Intervenors provided the Board with additional context and background information regarding the design and need for the Project.

[236] Section 38(2) of the *Water Act* requires, in part, that:

(2) In making a decision under this section, the Director

(a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in issuing an approval, as specified in an applicable approved water management plan,

(b) may consider any existing, potential or cumulative

- (i) effects on the aquatic environment,
- (ii) hydraulic, hydrological, and hydrogeological effects, and
- (iii) effect on household users, licensees, and traditional agricultural users,

that result or may result from the activity, ...” [Emphasis added by the Board]

The Board is of the view that the Director has met his obligations under both 38(2)(a) and (b) and that the impacts under the Approved Water Management Plan for the Battle River Basin. The Director discussed how he met these obligations in his direct evidence.<sup>118</sup> Specifically, the Director testified that there would be (1) no significant impact to the riparian or aquatic environment, (2) no adverse impacts to the hydrology, hydrogeology, or hydraulic characteristics, public health and safety, or assimilative capacity of the environment, and (3) no significant impact to the connectivity of surface and shallow groundwater regimes. Based on the evidence presented at the hearing and in the written materials, the Board agrees with the Director’s analysis. Specifically, at the hearing, the Board heard that the Director considered the relevant matters and factors in the Approved Water Management Plan for the Battle River Basin. The Board finds that the Director referenced the correct Approved Water Management Plan for the Project.

**A. Was the Director's Decision to Issue the Approvals Appropriate, Having Regard to the *Water Act* and the Applicable Alberta Environment and Parks' Policies and Guidelines?**

[237] This issue consisted of five sub-issues which are addressed below:

- a. an adequate outlet for the stormwater management system;
- b. the analysis and modelling of stormwater quality in accordance with the Stormwater Management Guidelines for the Province of Alberta;

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<sup>118</sup> Director’s Direct Evidence – Alberta Environment and Parks – June 21, 2021, being Exhibit #2, starting at page 65 – discussing the Approved Water Management Plan for the Battle River Basin.

- c. the risk of potential hydrocarbon contamination to Lacombe Lake as a result of the activities authorized by the Approvals;
- d. the stormwater flows used to calculate the water quality impacts of the activities authorized by the Approvals; and
- e. cumulative environmental impacts of the activities authorized by the Approvals on Lacombe Lake, including:
  - i. impacts on water flow through the Lake;
  - ii. impacts on water quality in the Lake;
  - iii. impacts on water levels on the Lake;
  - iv. impacts of water flow and water levels on shoreline erosion; and
  - v. impacts of water flow and water levels on-shore nesting birds.

1. An Adequate Outlet for the Stormwater Management System

[238] Regarding the first issue in these appeals, the Appellants relied on the definition of ‘adequate outlet’ contained in Approval 1 to argue the Director erred as he failed to require the Town to identify an adequate outlet for the Project as required by Approval 1, and that the changes or alterations in water flows, levels and impacts on the environment at Lacombe Lake as a result of the Project were measurable and as such Lacombe Lake was not an adequate outlet. Ms. Alexander stated that the MSMP estimated changes in outflows from the lake ranged from a 9.1% increase over pre-development outflows for a 1:2-year storm event under the single event analysis to a 931.6% increase over pre-development outflows for Scenario 4 under the continuous simulation analysis. Ms. Alexander also noted the continuous simulation modeling presented in the MSMP showed post-development maximum lake levels could increase from 0.031 to 0.231 metres over pre-development levels based on the continuous simulation scenarios modeled. Ms. Alexander further submitted that the Project would adversely affect Lacombe Lake due to increased shoreline erosion, lake siltation, loss of property values and exacerbation of historic lake level issues.

[239] The Board heard from the Appellants that damage from historical flooding would be exacerbated by the overland runoff from the Project. The Board heard evidence the construction of a weir by the County at Whelp Creek caused flooding of Lacombe Lake because it was built higher than expected and had a history of not being maintained. The Board was provided photographic and anecdotal evidence describing damage to the Appellant’s property caused by the high-water levels of Lacombe Lake.

[240] The Board also heard submissions that meeting the MDP pre-development discharge rates at Lacombe Lake post-development for the 1:100-year storm event was not evidence of an adequate outlet as it does not address whether the alterations in flow and level were measurable, was not supported with field confirmation, and was based on regional data and should not have been relied upon by the Director.

[241] The Board heard submissions from the Town that Pond D met the legislative criteria for an 'adequate outlet' because beyond that point post-development flow rates could impact downstream receiving bodies but, based on the Town's modeling such impacts were determined by the Town's modeling not to be significant. The Board also heard from the Town that Lacombe Lake also met the legislative criteria for 'adequate outlet' as Lacombe Lake was not adversely impacted by the Project.

[242] The Board heard from the Director that Lacombe Lake was an adequate outlet for the Project and met AEP Guidelines and Policies set out in the 2006 SGDs and the 2018 Factsheet.

[243] The Director explained to the Board the purpose of defining "adequate outlet" in Approval 1 was to require the Town to obtain consent from the County with respect to the flow route to the lake, but it did not import a requirement for an adequate outlet.

[244] The Director by his own admission acknowledged the definition of adequate outlet contained in Approval 1 was overly restrictive and could cause confusion. The Director explained a more reasonable interpretation of an adequate outlet is an outlet that performs within its design capacity during the peak 1:100-year storm event and does not adversely affect the environment.

[245] The Director argued this interpretation is supported by the 2006 SGD as well as the 2018 Fact Sheet which contains an updated definition of "measurable". The 2006 SGD stated:

"For a storm drainage discharge outlet to be considered an adequate outlet, the storm drainage system must NOT measurably\*:

- alter the natural peak flow or level of the water body receiving the storm drainage, whether temporarily or permanently;
- change or be capable of changing the location of the water or the direction of flow of water in the water body receiving the storm drainage;
- cause or be capable of causing the siltation or the erosion of any bed or shore of the receiving water body;

- cause or be capable of causing an adverse effect on the aquatic environment.

\* Measurable changes, alterations are those that can be measured using current technologies; and when compared to pre-development storm flow conditions demonstrate that a change, alteration, or effect has not occurred.

In general terms an outlet is expected to be adequate when:

- the impact of the post-development flow cannot be detected; or
- the outlet performs within its design capacity during the peak 1/100-year storm event and will not create an adverse effect on the environment.”<sup>119</sup>

[Emphasis added by the Board]

The 2018 Fact Sheet further stated:

“Measurable changes, alterations or effects are those that can be measured using current technologies; and when compared to the pre-development storm flow conditions demonstrate that a change, alteration or effect has or has not occurred or is insignificant.”<sup>120</sup> [Emphasis added by the Board]

[246] The Board heard from the Director that guidelines and policies such as the 2006 SGDs and the 2018 Fact Sheet are guidance documents and tools to be used by the Director to assist in decision-making. They are not absolute legislative requirements and should be applied flexibly and in a site-specific manner.

[247] The Board concurs with the Director that Ms. Alexander’s interpretation of the definition of “adequate outlet” contained in Approval 1 is too restrictive since it assumes that a negligible but measurable alteration in flow or level would prevent a Project from being approved. It is the Board’s view that an adequate outlet is required at the point where the stormwater leaves the Project and enters the downstream water bodies.

[248] The Board heard evidence from the Town that the single event modeling showed for a 1:100-year storm event post-development-controlled discharge rate for the Project would be 1.45 L/s/ha which was below the 2.00 L/s/ha required by the MDP. The Board heard further evidence that the 1:100-year storm event modeling showed Lacombe Lake level would rise by 9 cm.

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<sup>119</sup> Storm Guidance Document (March 2006) at page 6.

<sup>120</sup> 2018 Alberta Environment factsheet, *Water Act; Storm Water Management* at paragraph 148.

[249] The Town also provided evidence to the Board that modeling under Scenario 6 resulted in a 1% probability (or less than 4 days per year) that the level of Lacombe Lake would increase by 5 cm over pre-development levels.

[250] The Board heard evidence from the Town that post-development lake levels and flows were like pre-development lake levels and flows, and water quality would possibly improve over pre-development conditions.

[251] The Board heard evidence that phosphorus concentrations in Lacombe Lake post-development were less than pre-development and similar to rain water; that phosphorus was a well-accepted indicator of lake health; and that the design of the Project and the removal of sediment through the system of ponds and wetlands would result in a possible improvement to the quality of water in Lacombe Lake due to the removal of contaminants, metals and nutrients prior to release of the water from the system.

[252] Based on the evidence, the Board is satisfied that the impacts of the Project on the environment after discharge from the NW Stormwater Management System may be measurable, but they are not significant. Further the Board is satisfied that the unit discharge rate for a 1:100-year storm event for the Project does not exceed MDP guidelines. It is the Board's view the Appellants have not provided persuasive evidence that discharge from the Project would have an adverse impact to the environment over pre-development conditions.

[253] The Board acknowledges the Appellants concerns over historical flood conditions at Lacombe Lake caused by the weir construction and lack of maintenance. The Board notes the Appellants have indicated it had been remedied in recent years. It is the Board's view the cause of historic flooding is unrelated to the Project and the assessment of the appropriateness of the Director's decision to issue the Approvals must be based on the alterations to water flow and level caused by the Project over pre-development conditions, not on changes caused by pre-existing infrastructure installed prior to the application for the Project and under control of the County.

[254] The Board notes much of the Appellants argument regarding the identification of an adequate outlet is based on perceived errors, omissions and unsupported assumptions contained in the modeling undertaken by the Town and relied upon by the Director in making his decision to

issue the Approvals. The Board notes models are intended to be representations and not absolute truths. As models represent the conditions and outcomes of the data input into them, they are inherently limited despite their usefulness. Consequently, a model will never be an exact replication of the real world. Knowing these limitations, accuracy and reliability in this context really means useful approximation.

[255] It is the Board's view it is not sufficient to speculate that the modeling provided by the Town in support of the Project is erroneous or based on unsubstantiated assumptions. The onus is on the Appellants to provide sufficient, reliable, and relevant evidence to show on the balance of probabilities the Board should recommend to the Minister the decision of the Director should be reversed as he failed to require the Town to identify an adequate outlet due to reliance on erroneous or unsupported modeling.

[256] The Board is not satisfied the Appellants met this onus of proof.

[257] The Board heard from the Town that their consultant, Stantec, completed both single event and continuous modeling storm water analysis for the Project, including the use of conservative assumptions and differing scenarios, to ensure modeling of water flow and level was robust and Lacombe Lake was not adversely impacted. The Board also heard from the Town that the Water Quality Assessment modeling was akin to a "stress test" to ensure the Project would perform as intended under water flows more than what was expected and that differing flow rates in modeling were used for differing purposes. Also, the Board was provided evidence that AEP guidelines and policies as well as leading literature accepted phosphorus as an acceptable indicator of lake health.

[258] It is the Board's view that the Appellants have not provided any evidence to show modeling of the effect of the Project on lake levels, flow and quantity was not accurate and reliable. The Board is satisfied with the Town's explanations regarding the use of differing flow rates for differing purposes and the need for reasonable assumptions to make modeling useful to the decision maker. The Board respectfully notes that the context in which a model is developed must be considered and taking modeling results out of context is speculative and not persuasive.



[259] The Board finds that the definition of ‘adequate outlet’ contained in Approval 1 is too restrictive. The Board also finds that the Project has an adequate outlet as discharge from the NW Stormwater Management System does not exceed MDP pre-development standards of 2.0 L/s/ha for a 1:100-year storm event. The Board accepts the Town’s and Director’s evidence that the outlet is adequate as the modeling developed by the Town showed that discharge from the NW Stormwater Management System is not likely to cause an adverse environmental impact.

[260] It is also the Board’s view that the definition of adequate outlet contained in Approval 1 should be amended to reflect the complete definition of “adequate outlet” as set out in the 2006 SGD and the revised definition of “measurable” as found in the 2018 Fact Sheet.

2. Analysis and Modeling of Stormwater Quality in Accordance with the Stormwater Management Guidelines for the Province of Alberta

[261] The Appellants asserted that the Director’s decision to issue the Approvals was not appropriate as there was insufficient analysis and study and there were errors and omissions in quality modeling.

[262] The Board heard argument from the Appellants that a comprehensive water study of Pond D and Lacombe Lake should have been completed prior to the issuance of the Approvals. It was also alleged the Director did not follow the guidance found in the 1999 SMGs that required a detailed water quality study for the Project.

[263] The Appellants argued the Director inappropriately relied on the Water Quality Assessment because it focused on phosphorus as an indicator of the removal rates for other pollutants such as nitrogen, metals, chloride, and hydrocarbons.

[264] The Appellants also raised issue with the lack of baseline testing in Lacombe Lake and Pond D of other pollutants including hydrocarbons prior to the issuance of the Approvals and the failure of the Director to consider the concerns and requests of certain AEP subject matter specialists for more information.

[265] At the hearing, the Director described to the Board the review and decision-making process for the applications. Mr. Ludtke explained the steps taken by AEP to review the Town’s application to determine if the Project had an adverse affect on water quality in Lacombe Lake and

Whelp Brook including consultation with the public, review of the Town's applications including the Water Quality Assessment, review by AEP subject matter experts, and consideration of the applicability of relevant legislation and AEP guidelines and policies.

[266] The Board heard evidence from the Town and the Director that the modeling showed the Project met or exceeded AEP guidance. The Town disputed Ms. Alexander's submission that the 1999 SMGs required the Town complete a detailed water quality analysis because Lacombe Lake was a recreational or sensitive biological resource that would likely be affected. The Town argued, as it was unlikely the receiving water bodies would be adversely affected by the Project, the Project fell within the second category of stormwater systems described in the 1999 SMGs which do not require an extensive water quality study.

[267] The Town explained to the Board that the stormwater would flow through stormwater management facilities throughout the Project where it must meet AEP stormwater quality standards before discharge. The Town also explained to the Board that the Project as designed would improve water quality as it proceeds through the system and the overall result is a net increase in the quality of water which in turn should increase the quality of water in both the lake and downstream.

[268] The Town also described to the Board the methodology used in water quality analysis stating the Project used a mass balance assessment for system performance and used phosphorus as an overall indicator of system performance which was a recognized industry standard and practice and cited in leading literature.

[269] At the hearing Mr. Morgan also explained to the Board other nutrients were not ignored in the Water Quality Study. Other nutrients would be treated by the same processes that treat phosphorous as the storm water passes through the Stormwater Management System. Mr. Morgan also explained to the Board that modeling predicted the treated stormwater would have a lower concentration of phosphorus than average pre-development concentrations and would be similar to that of rainwater.

[270] The Director also explained to the Board the hybrid stormwater management facilities were designed to meet or exceed the 2006 SGD minimum performance criteria of

removing 85% of sediments of 75 microns or greater. He further explained it was reasonable to accept using phosphorus as the appropriate parameter for the mass balance analysis as the 1999 and 2013 SMGs recognized a corresponding reduction in contaminants, including phosphorous, using best management practices such as wet ponds. The Director submitted the Project complied with or exceeded AEP policy in addressing post-development water quality.

[271] Mr. Ludtke also told the Board it was unnecessary to require any further water quality study as requested by AEP subject matter experts as further study was unlikely to change the Director's assessment and would likely provide no additional information.

[272] It is the Board's view the Director appropriately concluded that the analysis and modeling in respect of water quality was in accordance with applicable AEP guidelines. The Board accepts the evidence of the Town and the Director that water quality in Lacombe Lake will not be adversely affected by the Project. The Board therefore finds a detailed water quality study beyond what has already been completed, was not required under the 1999 SGDs.

[273] As stated earlier, it is the Board's view that the use of phosphorus as an indicator of the performance of the Project is appropriate as it is recognized in AEP guidelines and industry practice as well as leading literature. The Board found the Appellants' submissions regarding impacts on water quality to be speculative in nature and to focus in a significant part on the lack of study and analysis of other nutrients. However, it is the Board's view the Appellants have failed to provide sufficient, reliable, and relevant evidence that it is inappropriate for the Director to rely on AEP guidelines and polices and leading literature supporting the applicability of phosphorus as indicator of lake health.

[274] The Board also notes that the Town has committed to an ongoing sampling and monitoring program to ensure the Project operates as designed.

[275] At the hearing, the Director stated he had discretion in issuing the Approvals and he had to make meaningful referrals to subject matter experts, address their concerns, and consider their recommendations within the context of the regulatory scheme.

[276] The Board is of the view that the Director exercised his discretion appropriately in respect of the additional information requested concerning water quality. The Board accepts the

Director's explanation that a further water quality study was not required as it would not provide any additional information.

### 3. Risk of Potential Hydrocarbon Contamination

[277] The Appellants raised the potential for hydrocarbon contamination of Lacombe Lake because the Project would discharge runoff from an urban area.

[278] The Board heard evidence from the Town's expert that the stormwater would move through a treatment train of constructed wetlands with an expected improvement in water quality before a controlled release into Lacombe Lake and beyond. The Town described the process to the Board and explained it was expected that other nutrient and contaminant removal rates would be equivalent to or greater than the 80% removal rate expected for phosphorous.

[279] The Town also submitted that it is well accepted that volatilization and biological processes are very effective in removing hydrocarbon by-products and this fact coupled with removal of suspended solids of 75 microns or larger created an efficient system that complies with the MDP and AEP guidelines.

[280] The Board finds the Director appropriately considered the potential for hydrocarbon contamination of Lacombe Lake in making his decision to issue the approval. The Board accepts the evidence that potential hydrocarbon contamination would be removed prior to discharge due to the design of the hybrid ponds and the Project. It is the Board's view the Appellants' submissions regarding potential hydrocarbon contamination were speculative in nature and the Appellants did not provide any evidence to show the Project as designed would not remove hydrocarbons from stormwater prior to discharge into Lacombe Lake.

[281] The Board again notes that the Town has committed to a water quality monitoring program to ensure the Project operates as designed.

4. Stormwater Flows used to Calculate Water Quality Impacts of the Activities

[282] The Appellants challenged the differing flow rates used in water quality modeling provided by the Town and relied upon by the Director in making his decision to issue the Approvals.

[283] The Board heard submissions that the science and assessments of the stormwater quality modelling must be reviewed in context and differing rates were used in differing calculations for differing purposes.

[284] The Town told the Board the volume testing rates used in the Water Quality Assessment were not indicative of actual flow rates because they overestimated the expected quantity of runoff to show that the system was robust under such conditions.

[285] Similarly, the Town explained to the Board the difference between post-development discharge rates used in the Water Quality Assessment and used in the continuous simulation modeling. The Town explained the continuous simulation modeling was part of Stantec's hydrologic and hydraulic analysis which was used to provide an accurate illustration of day-to-day runoff conveyance and the effect of back-to-back storms.

[286] The Town further explained the difference between Scenario 4 and 6 modeled in the continuous simulation modeling. Scenario 4 was a very unlikely scenario included as part of the sensitivity analysis to demonstrate, when compared to other scenarios, the robustness of the controls factored into the Project.

[287] It is the Board's view that the Director appropriately relied on the stormwater flows used to calculate water quality. The Appellants have not provided the Board with any evidence that would persuade the Board that the Town's experts used incorrect flow rates in determining the impact of the Project on water quality. The Board accepts the explanation provided by the Town regarding the use of differing flow rates for differing purposes as reasonable.

5. Cumulative Environmental Impacts of the Activities Authorized by the Approvals on Lacombe Lake

[288] This issue included five sub-issues:

1. impacts on water flow through the Lake;
2. impacts on water quality in the Lake;
3. impacts on water levels on the Lake;
4. impacts of water flow and water levels on shoreline erosion; and
5. impacts of water flow and water levels on-shore nesting birds.

[289] The Appellants submitted the Director failed to conduct a proper analysis of the cumulative environmental effect of changes in water flows, water levels, water quality on the recreational and ecological values of Lacombe Lake; on shoreline vegetation, fish, waterfowl, shore nesting birds or other wildlife; on shoreline erosion and increased sedimentation due to the overland flow of storm water from Pond D to Lacombe Lake. The Appellants argued the Director erred as he failed to consider the historical flooding of Lacombe Lake; he wrongly relied on hydrological modeling that assumed the weir and Whelp Brook culvert would be free of debris; he failed to complete proper wildlife studies, including of shore nesting birds; and did not consider the impact phosphorus would have on aquatic plant growth.

*Water Quality, Flow Rates and Levels*

[290] The Director provided evidence to the Board that the continuous simulation modeling showed the Project had an acceptable impact as the increase in lake level was 0.031 metres under Scenario 6, the most likely scenario. The Director also provided evidence the single event modeling showed in the case of a 1:100 year-storm event the increase in lake level was 9 cm which was negligible. He explained to the Board that these increases in lake level do not occur on a regular or permanent basis and small lake level increases are expected for regular climatic conditions.

[291] The Board was also provided evidence by the Town that for most of the time post-development lake levels are at or near pre-development lake levels and that post-development there

was only a 1% (less than 4 days per year) probability that the normal water level will be exceeded by 5 cm.

[292] The Director also explained to the Board the post-development flow discharge rate from the Stormwater Management System to Lacombe Lake of 1.45 L/s/ha and the post-development flow discharge rate from Lacombe Lake of 0.477 L/s/ha met the pre-development discharge rate of 2.0 L/s/ha set in the MDP for the Wolf Creek and Whelp Creek basin which includes Lacombe Lake and the northwest Blackfalds area. He noted that the discharge rates from the hybrid ponds will also be designed to meet the MDP release rates.

[293] The Town submitted for a 1:100-year storm event the impact on waterflow through the lake would be 0.007 m/s which the Town argued is negligible and would not foreseeably contribute to an accumulated impact. In addition, the Town argued the Approvals also have conditions to keep discharge controls in place to mitigate against downstream impact.

[294] The Town submitted that the maintenance of the infrastructure will be a coordinated effort between the County and the Town, and that the continuous modeling simulation did capture incidents of flooding by incorporating 23 years of historical precipitation data. As well, maintenance of the weir could also form part of the Lake Management Plan. The Director also noted the MSMP modeling shows the structure is capable of handling flows from Lacombe Lake.

#### *Water Quality*

[295] As discussed earlier, the Town provided modeling evidence showing water quality could be plausibly improved because of the Project and the concentration of phosphorus in the stormwater entering the lake would be like rainwater.

[296] The Director also noted phosphorus was the key parameter by which to judge water quality due to its role as the limiting nutrient in most freshwater systems and accelerating eutrophication when present in excess. The Director acknowledged that removal efficiencies for various contaminants would vary but he was of the view the ponds and wetlands in a series would result in a high rate of removal of various potential contaminants, nutrients, and metals and therefore changes in water quality would not have an adverse impact on the environment.

[297] The Board's view is that plants in the lake respond to concentrations of phosphorus not the total loading of phosphorus. The Town demonstrated that the Project would have the net effect of dropping phosphorus concentrations in Lacombe Lake from 0.021 mg/L to 0.019 mg/L.

*Impacts of Water Flow and Water Level on Shoreline Erosion*

[298] As stated above the Director and the Town provided evidence that modeling showed increases to water flow and water level above pre-development conditions at Lacombe Lake were acceptable. The Director explained there would be no effect on shoreline erosion above pre-development conditions and therefore no adverse effect on the environment.

*Impact of Water Level and Water Flow on Shore Nesting Birds*

[299] The Town provided evidence to the Board that anticipated post-development water level and flows largely mimic pre-development conditions, and any increases would be minor and brief. Therefore, any impacts on nesting birds were not anticipated to be different than pre-development conditions. The Town noted that in his report Mr. Wagner provided only anecdotal observations of the current situation and did not address how a controlled discharge into the lake would affect shore nesting birds adversely. Further, under Scenario 6 conditions, the most likely scenario, Mr. Wagner found it unlikely water level increases would impact shore nesting birds.

[300] The Director also noted that even under Scenario 4, Mr. Wagner only indicated that the increases in water level could negatively impact some of the birds that nest near shore areas but did not indicate what those negative impacts would be.

[301] The Board finds that the Director appropriately considered the cumulative environmental impacts of the activities authorized by the Approval.

[302] It is the Board's view the Appellants have not provided any evidence of discharge rates and lake levels that could potentially cause an impact on the environment. The Board accepts the evidence provided by the Director and the Town that the post-development water levels and flow to Lacombe Lake would not be materially different than pre-development water levels and flows and the Project would not cause an adverse environmental impact over pre-development conditions.



[303] The Board also accepts the evidence provided by the Director and the Town that the quality of water discharging from the NW Stormwater Management System may plausibly be better than pre-development runoff and phosphorus levels will not cause an adverse environmental impact as the concentration of phosphorus is like rainwater. It is the Board's view that the Appellants' submissions regarding contaminants are speculative and anecdotal, and the Appellants have not provided persuasive evidence to suggest that the Project will not operate as designed with respect to the removal of contaminants.

[304] It is the Board's view that the Appellants' submissions regarding erosion and impact on shore nesting birds were also speculative and did not provide any site-specific data of potential adverse effects on the aquatic environment. The Board accepts the evidence provided by the Director and the Town that the Project will not adversely increase shoreline erosion or adversely affect shore nesting birds. Although the Board appreciates Mr. Wagner's report and contribution to the hearing, it is the Board's view that his evidence was not persuasive as it was anecdotal and concluded under Scenario 4 no significant impact on shore nesting birds.

**B. Do the Terms and Conditions of the Approvals Appropriately Address the Potential Environmental Impacts of the Activities that are Authorized? This Includes but is not Limited to Monitoring that Would Determine the Quality of Stormwater Discharging into Lacombe Lake?**

[305] Much of the Appellants arguments have focused on the failure of the Director to require a pre-development baseline study and assessment and continued monitoring of Pond D and Lacombe Lake, including a detailed assessment of pollutants other than phosphorus; a pre-development study of shoreline vegetation, aquatic life and waterfowl; establishing acceptable lake levels and operational limits, water quality objectives and management plans; collecting pre-development samples of run off entering the lake and pre-development water samples from Pond D and Lacombe Lake; and failing to require monitoring of Pond D and Lacombe Lake pre-development, during construction and in perpetuity.

[306] The Town explained to the Board the terms and conditions of the Approvals are adequate as the Approvals contained specific provisions, above general and standard conditions, designed to address environmental impacts including those directing and resulting in the Town's

continued responsible overview of the Project and its impacts. The Town provided evidence to the Board that the Town is required to undertake a monitoring program as required by SIR #1 and the Water Quality Monitoring Program for a minimum of 5 years. The program requires at least one year of background data and is subject to the Director's right to increase monitoring locations and periods and the obligation of the Town to provide annual summary reports to the Director. Approval 1 also requires the Town to develop a Lake Management Plan with the County and the Lacombe Lake Watershed Stewardship Society.

[307] The Town provided evidence to the Board that a monitoring location was proposed at the discharge point of the system (Pond C) to the linear wetland. Other monitoring locations are also specified.

[308] The Director also submitted the terms and conditions of the Approvals are appropriate as they adequately protect the aquatic environment and Lacombe Lake. The Director explained to the Board the various conditions contained in each of Approvals 1 and 2 that were designed to protect the environment including monitoring obligations imposed on the Town, obligations to mitigate the impact of phosphorus loading and other pollutants to Lacombe Lake because of the Project; and the development of a Lake Management Plan. The Director noted the sampling of discharge at the outlet of the linear wetland allows the Town to confirm their modeling and determine whether other potential impacts have occurred. The Director also noted the requirement to monitor the effectiveness of the stormwater management system for 5 years exceeds the 1999 SMGs recommendation to monitor for 2 years after installation of the system and was included to address concerns of the SOC filers.

[309] Throughout their submissions and the hearing, the Appellants questioned the adequacy of modeling and reports; the lack of sufficient studies regarding water quality; and the lack of baseline data gathered prior to the issuance of the Approvals. The Board appreciates the Appellants' concern regarding the continued health of Lacombe Lake and beyond.

[310] It is the Board's view the monitoring required by the Approvals is adequate as it meets or exceeds AEP guidelines and is more onerous than monitoring requirements generally imposed on other applicants. The Board accepts the evidence of the Town that it is committed to create a Lake Management Plan in conjunction with other stakeholders and the County. The Board

also accepts the Director's evidence that the terms and conditions of the Approvals are designed to monitor and ensure there is not an adverse impact to the aquatic environment of Lacombe Lake because of the Project. The Appellants' allegations that additional studies are necessary are speculative and not supported by evidence. Further, to require the Town to complete the additional studies suggested by the Appellants would put a higher standard on the Town than that imposed on other applicants.

## VII. CONCLUSIONS AND RECOMMENDATIONS

### A. Conclusions

[311] The Board found the Director's decision to issue the Approvals appropriate having regard to the *Water Act* and AEP's policies and guidelines.<sup>121</sup> The Board found the approvals met or exceeded AEP stormwater management policies and guidelines and the activities authorized by the approvals did not adversely affect the aquatic environment.

[312] The Board determined the terms and conditions of the approvals appropriately address the potential environmental impacts of the activities authorized. However, the Board found that the Director erred by including a definition of adequate outlet in Approval 1 that was too restrictive, which caused confusion and was not reflective of current AEP policy and guidelines. The Board is also of the view that the proposed water quality monitoring program for Approval 1 should include the collection of an additional sample at the discharge point from the linear wetland because this is the last place the Approval Holder has control over surface water flow.

[313] It is the Board's view the Appellants have not satisfied the onus to provide sufficient evidence and argument to demonstrate to the Board that the decision of the Director should be reversed. The Board wishes to be clear about onus. The concerns that are raised about the evidence before the Board must be more than speculative. The Board understands that it may be difficult for appellants to assess technical information contained in approval applications, and that it is expensive for appellants to employ their own technical experts to assess the information or gather new information. However, appellants need to provide sufficient, reliable, and relevant

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<sup>121</sup> See Director's Direct Evidence – Alberta Environment and Parks – June 21, 2021, being Exhibit #2, at page 65 – discussing the Approved Water Management Plan for the Battle River Basin.

evidence to show on the balance of probabilities that the Board should recommend to the Minister the decision of the Director be reversed or varied. The Board believes that this can be done through a careful analysis of the evidence before the Board, through a thorough cross-examination, and through argument; it need not only be done by bringing technical evidence to the contrary. However, as stated, in the circumstances of this case the Board is of the view the Appellants have not met this onus.

[314] The Board recommends Approval 1 be varied to include a more complete definition of adequate outlet as provided for in current AEP policy and guidelines. The Board also recommends Approval 1 be varied to add monitoring at the discharge point of the linear wetland to ensure the system operates as intended.

[315] The Board recommends all other terms and conditions of the Approvals be confirmed as issued.

[316] Finally, the Board strongly supports the development of a Lake Management Plan for Lacombe Lake. In the Board's view, many of the concerns of the Appellants are best addressed as part of the Lake Management Plan. Given the concerns of the Appellants, the Board suggests the Town should consider monitoring the water quality coming out of Lacombe Lake as part of their contribution to the Lake Management Plan.

#### **B. Recommendations**

[317] The Board recommends that the Minister:

1. Confirm Approval 2 in its entirety.
2. Vary Approval 1 by:
  - a. replacing clause 1.1(h) with the following:

1.1(h) "Adequate outlet" means a storm drainage discharge outlet to a receiving water body that does NOT measurably\*:

    - i. Alter the natural peak flow or level of the water body receiving the storm drainage, whether temporarily or permanently.
    - ii. Change or be capable of changing the location of the water or the direction of the flow of water in the water body receiving the storm drainage.
    - iii. Cause or be capable of causing the siltation of the erosion of and bed or shore of the receiving water body.

- iv. Cause or be capable of causing an adverse effect on the aquatic environment.

\*Measurable changes, alterations or effects are those that can be measured using current technologies; and when compared to the pre-development flow conditions demonstrate that a change, alteration, or effect has or has not occurred or is insignificant.

- b. replace clause 5.0 with the following:

5.0 The Approval Holder shall undertake the stormwater monitoring program as outlined in Report Nos. 003857959-R001 and 00387959-R003, with the addition of a water quality sampling point at the discharge point of the linear wetland.

## VIII. CLOSING

[318] With respect to sections 100(2) and 103 of EPEA, the Board recommends copies of this Report and Recommendations, and the decision of the Minister, be sent to the following:

- a. Mr. Barry Robinson, Ecojustice on behalf of Ms. Anita Alexander;
- b. Ms. Antonietta Davis;
- c. Mr. William Hill;
- d. Ms. Suzanne Alexander-Smith, Chapman Riebeck LLP on behalf of the Town of Blackfalds;
- e. Ms. Nicole Hartman and Mr. Paul Maas, Alberta Justice and Solicitor General on behalf of Mr. Todd Aasen, Director, Regional Approvals, Regulatory Assurance Division – South, Environment and Parks;
- f. Mr. Ron Henschel on behalf of Aurora Heights Management Ltd.; and
- g. Mr. Joe Tindall on behalf of Mr. Everett and Ms. Bev Loney.

Dated on December 22, 2023.

-original signed-

Anjum Mullick  
Board Member and Panel Chair

-original signed-

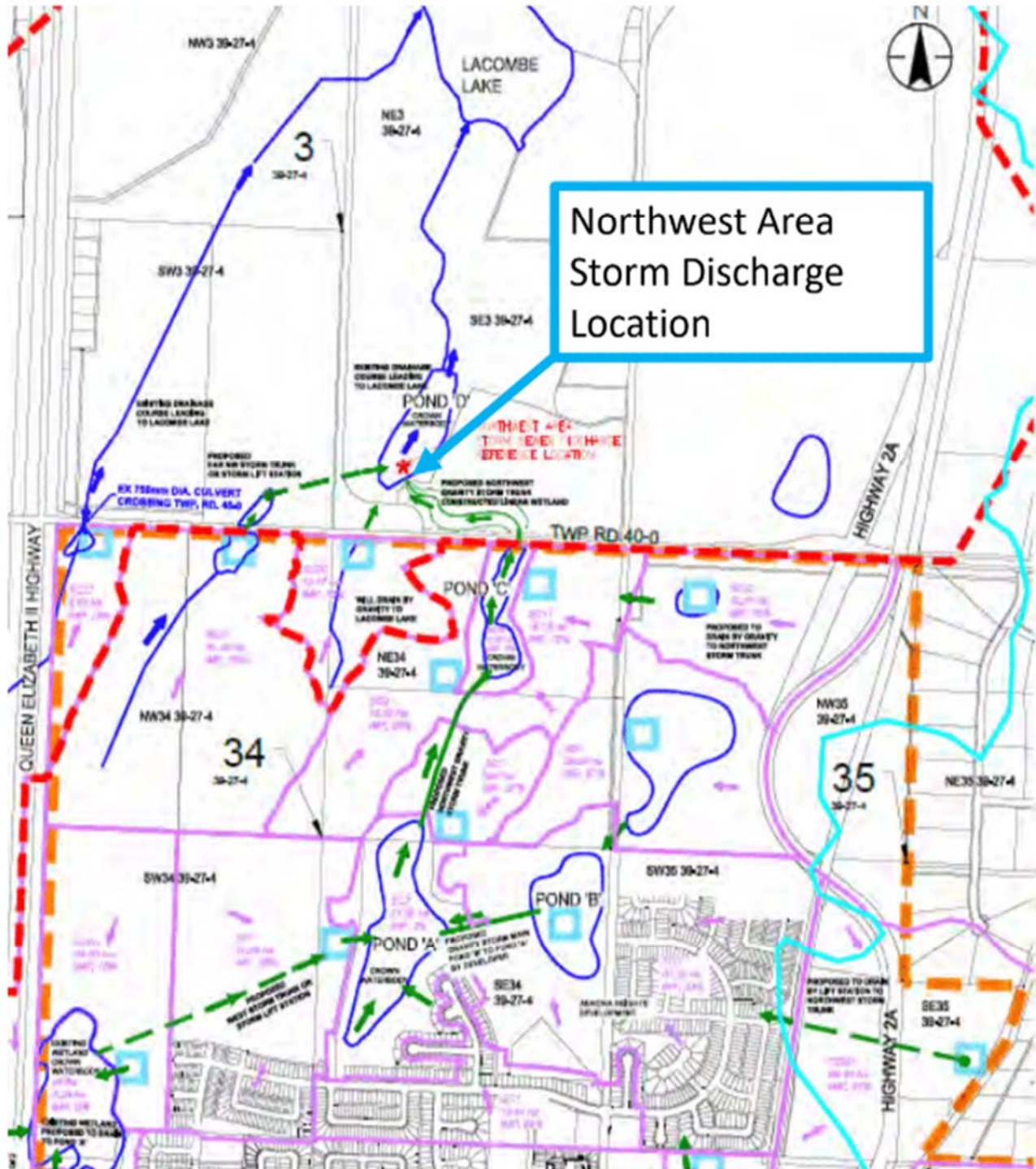
Nick Tywoniuk  
Board Member

-original signed-

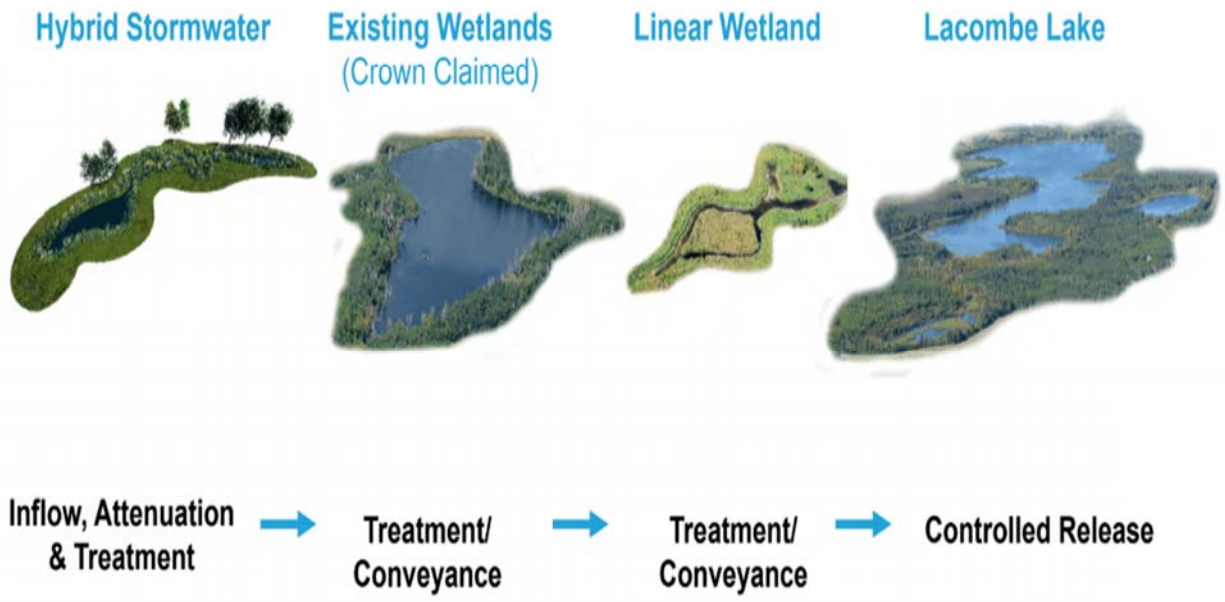
Barbara Johnston  
Board Member and Board Chair

**Appendix A: Diagrams of the proposed stormwater management system.**

The diagrams are taken from the Town's presentation at the hearing.



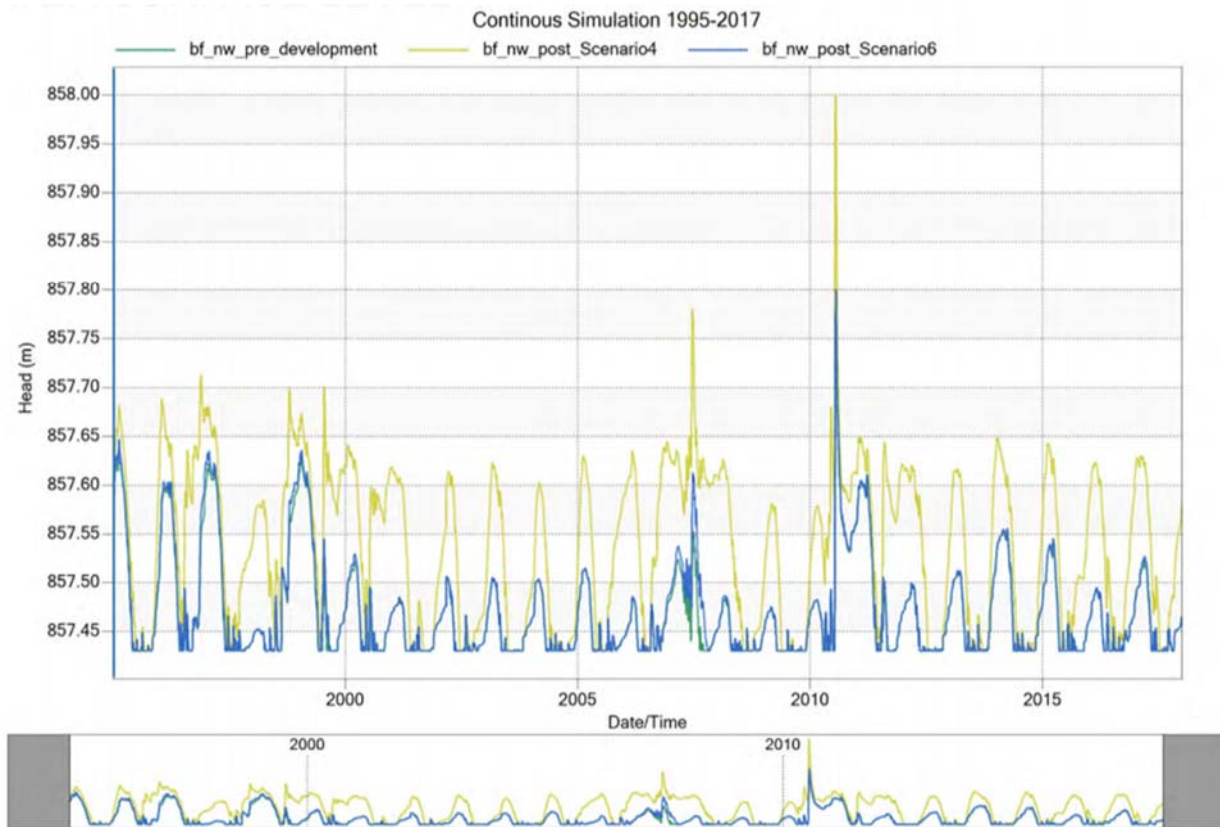
# BLACKFALDS NW “TREATMENT TRAIN”



Appendix B: Modeled water level of Lake Lacombe.

Taken from the Town's presentation at page 30.

The green line is the modeled pre-development scenario lake surface levels, and the blue line is the modeled lake surface levels for Scenario 6.







ALBERTA

ENVIRONMENT AND PROTECTED AREAS

*Office of the Minister*

**Ministerial Order  
1/2024**

*Environmental Protection and Enhancement Act*  
R.S.A. 2000, c. E-12

*Water Act*  
R.S.A. 2000, c. W-3

**Order Respecting Environmental Appeals Board  
Appeal Nos. 20-011-014 and 20-016**

I, Rebecca Schulz, Minister of Environment and Protected Areas, pursuant to section 100 of the *Environmental Protection and Enhancement Act*, make the order in the attached Appendix, being an Order Respecting Environmental Appeals Board Appeal Nos. 20-011-014 and 20-016.

Dated in the Province of Alberta, this 13<sup>th</sup> day of February, 2024.

A handwritten signature in black ink that reads "Rebecca Schulz".

Rebecca Schulz  
Minister

## APPENDIX

### Order Respecting Environmental Appeals Board Appeal Nos. 20-011-014 and 20-016

With respect to the decision of the Director Regional Approvals, Regulatory Assurance Division - South, Alberta Environment and Parks, to issue *Water Act* Approvals 00387959-00-00 and 00391359-00-00 to the Town of Blackfalds, I, Rebecca Schulz, Minister of Environment and Protected Areas, order the following:

1. Approval 00387959-00-00 is varied as follows:

(a) Condition 1.1(h) is repealed and replaced with the following:

“1.1(h) “Adequate outlet” means a storm drainage discharge outlet to a receiving water body that does NOT measurably\*:

- i. Alter the natural peak flow or level of the water body receiving the storm drainage, whether temporarily or permanently.
- ii. Change or be capable of changing the location of the water or the direction of the flow of water in the water body receiving the storm drainage.
- iii. Cause or be capable of causing the siltation or the erosion of any bed or shore of the receiving water body.
- iv. Cause or be capable of causing an adverse effect on the aquatic environment.

\*Measurable changes, alterations or effects are those that can be measured using current technologies; and when compared to the pre-development flow conditions demonstrate that a change, alteration, or effect has or has not occurred or is insignificant.”

(b) Condition 5.0 is repealed and replaced with the following:

“5.0 The Approval Holder shall undertake the stormwater monitoring program as outlined in Report Nos. 003857959-R001 and 00387959-R003, with the addition of a water quality sampling point at the discharge point of the linear wetland.”

2. All other terms and conditions in Approval 00387959-00-00 are confirmed as is.

3. Approval 00391359-00-00 is confirmed as is.